# **Supplementary Material: Robust Uncertainty-Aware Multiview Triangulation**

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# 1. Nomenclature

Symbol	Description
$c_i$	Camera/View with index i.
$\mathcal{V}$	Set of all cameras/views observing the point to be triangulated.
$\mathbf{x}^w$	Ground-truth 3D point to be triangulated, expressed in the world reference frame.
$\mathbf{x}_{ ext{est}}^w$	Estimated 3D point, expressed in the world reference frame.
$\mathbf{x}_i$	Estimated 3D point, expressed in the camera reference frame of $c_i$ .
$\mathbf{R}_i$ and $\mathbf{t}_i$	Rotation matrix and translation vector that together transform the vector in the world frame to the reference frame of $c_i$ , $e.g.$ , $\mathbf{x}_i = \mathbf{R}_i \mathbf{x}_{\text{est}}^w + \mathbf{t}_i$ .
$\mathbf{P}_i$	Extrinsic matrix of $c_i$ , <i>i.e.</i> , $\mathbf{P}_i = [\mathbf{R}_i \mid \mathbf{t}_i]$ .
$\mathbf{c}_i^w$	The position of $c_i$ in the world reference frame, i.e., $\mathbf{c}_i = -\mathbf{R}_i^{\top} \mathbf{t}_i$ .
$\mathbf{K}_i$	Camera calibration matrix of $c_i$ .
$\mathbf{u}_i$	Noisy pixel coordinates of the point observed in $c_i$ , <i>i.e.</i> , $\mathbf{u}_i = \begin{bmatrix} u_i \\ v_i \end{bmatrix}$ .
$\mathbf{u}_i'$	Pixel coordinates of the projection of $\mathbf{x}_{\text{est}}^w$ in $c_i$ , <i>i.e.</i> , $\mathbf{u}_i' = \begin{bmatrix} u_i' \\ v_i' \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix} \frac{\mathbf{K}_i \mathbf{x}_i}{(\mathbf{x}_i)_3}$ .
$\mathbf{f}_i$	Normalized image coordinates of the point observed in $c_i$ , <i>i.e.</i> , $\mathbf{f}_i = \mathbf{K}_i^{-1} \begin{bmatrix} \mathbf{u}_i \\ 1 \end{bmatrix}$ .
$egin{aligned} \mathbf{f}_i^w \ \mathcal{I} \end{aligned}$	Feature ray of the point observed in $c_i$ , expressed in the world reference frame <i>i.e.</i> , $\mathbf{f}_i^w = \mathbf{R}_i^{\top} \mathbf{f}_i$ . Set of all inlying cameras/views for a given $\mathbf{x}_{\text{est}}^w$ that meet the following conditions: (1) It has a small
	reprojection error, and (2) it satisfies the cheirality.
$eta_{ ext{max}}$	$\text{Maximum parallax angle of } \mathcal{I}, \textit{i.e.}, \beta_{\max} = \max \big\{ \angle \left(\mathbf{f}_{j}^{w}, \mathbf{f}_{k}^{w}\right) \mid j, k \in \mathcal{I} \big\}.$
$\mathbf{t}^w_{jk}$	Vector difference of the camera position $j$ and $k$ , i.e., $\mathbf{t}_{jk}^w = \mathbf{c}_j^w - \mathbf{c}_k^w$ .
$e_{jk}$	Normalized epipolar error for the point observed in $c_j$ and $c_k$ , i.e., $e_{jk} := \left  \widehat{\mathbf{t}}_{jk}^w \cdot \left( \widehat{\mathbf{f}}_j^w \times \widehat{\mathbf{f}}_k^w \right) \right $ .
$p_{jk}$ , $q_{jk}$ and $r_{jk}$	Quantities for the point observed in $c_j$ and $c_k$ , defined as follows: $p_{jk} = \hat{\mathbf{f}}_j^w \cdot \hat{\mathbf{f}}_k^w$ , $q_{jk} = \hat{\mathbf{f}}_j^w \cdot \hat{\mathbf{t}}_{jk}^w$ , $r_{jk} = \hat{\mathbf{f}}_k^w \cdot \hat{\mathbf{t}}_{jk}^w$ .
$\lambda_j$ and $\lambda_k$	Depths of the midpoint anchors for the point observed in $c_j$ and $c_k$ .
$b_{ m good}$	Boolean that indicates the validity of the resulting midpoint.
$\mathbf{e}_{2D}$	2D reprojection error of $\mathbf{x}_{\mathrm{est}}^w$ in $\mathcal{V}$ , <i>i.e.</i> , $\mathbf{e}_{2D} = \left[\cdots, \ \mathbf{u}_i - \mathbf{u}_i'\ , \cdots\right]^{\top}$ for all $i \in \mathcal{V}$ .
$\overline{e}_{2D}$	Mean 2D reprojection error of $\mathbf{x}_{\mathrm{est}}^w$ in $\mathcal{I}$ .
$\sigma_{3D}$	Estimated magnitude of the 3D uncertainty of $\mathbf{x}_{\text{est}}^w$ .
J	Jacobian matrix in the Gauss-Newton algorithm.
$\mathbf{r}$	Residual vector in the Gauss-Newton algorithm.
G	3D regular grid that maps $( \mathcal{I} , \overline{e}_{2D}, \beta_{\max})$ to $\sigma_{3D}$ .
$\eta$	Desired probability that at least one outlier-free pair is sampled in the two-view RANSAC.
$\epsilon$	Estimated inlier ratio.
$m_{ m min}$	Minimum number of pairs to be sampled in RANSAC to achieve the desired $\eta$ .
C	Cost function of the hypothesis in RANSAC.
$\delta_{2D}$	Inlier threshold for the reprojection error.
$\delta_{ m epipolar}$	Threshold for the normalized epipolar error.
$\delta_{ m update}$	Threshold for detecting the convergence of the mean reprojection error in the Gauss-Newton algorithm.
$\delta_{ m lower}$	Lower threshold for the cosine of the considered angle.
$\delta_{ m upper}$	Upper threshold for the cosine of the considered angle.
$\delta_{ m pair}$	Maximum number of pairs to be sampled for computing the maximum parallax angle.

#### **2. Derivation of** $e_{2D}$

For camera  $c_i$ , the 2D reprojection error of point  $\mathbf{x}_{\mathrm{est}}^w$  is obtained by

$$\begin{bmatrix} (u_{\text{error}})_i \\ (v_{\text{error}})_i \end{bmatrix} = -\begin{bmatrix} u_i \\ v_i \end{bmatrix} + \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix} \mathbf{K}_i \begin{bmatrix} [(\mathbf{P}_i)_{\text{row}1} \widetilde{\mathbf{x}}_{\text{est}}^w] / [(\mathbf{P}_i)_{\text{row}3} \widetilde{\mathbf{x}}_{\text{est}}^w] \\ [(\mathbf{P}_i)_{\text{row}2} \widetilde{\mathbf{x}}_{\text{est}}^w] / [(\mathbf{P}_i)_{\text{row}3} \widetilde{\mathbf{x}}_{\text{est}}^w] \end{bmatrix},$$
(1)

where  $\begin{bmatrix} u_i \\ v_i \end{bmatrix}$  is the image coordinates of the observed point,  $\mathbf{K}_i = \begin{bmatrix} k_{i11} & k_{i12} & k_{i13} \\ k_{i21} & k_{i22} & k_{i23} \\ k_{i31} & k_{i32} & k_{i33} \end{bmatrix}$  is the intrinsic matrix  $\mathbf{P}_i = [\mathbf{R}_i \mid \mathbf{t}_i]$ 

is the extrinsic matrix, and  $\widetilde{\mathbf{x}}_{\text{est}}^w = \begin{bmatrix} \mathbf{x}_{\text{est}}^w \\ 1 \end{bmatrix}$  is the homogeneous coordinates of  $\mathbf{x}_{\text{est}}^w$ . Rewriting (1), we get

$$\begin{bmatrix} (u_{\text{error}})_i \\ (v_{\text{error}})_i \end{bmatrix} = \begin{bmatrix} k_{i13} - u_i \\ k_{i23} - v_i \end{bmatrix} + \frac{1}{(\widetilde{\mathbf{x}}_{\text{est}}^w)^\top (\mathbf{P}_i)_{\text{row}3}^\top} \begin{bmatrix} (\widetilde{\mathbf{x}}_{\text{est}}^w)^\top (k_{i11}(\mathbf{P}_i)_{\text{row}1}^\top + k_{i12}(\mathbf{P}_i)_{\text{row}2}^\top) \\ (\widetilde{\mathbf{x}}_{\text{est}}^w)^\top (k_{i21}(\mathbf{P}_i)_{\text{row}1}^\top + k_{i22}(\mathbf{P}_i)_{\text{row}2}^\top) \end{bmatrix}.$$
(2)

Now, for n views observing the same point, define the following matrices:

$$\mathbf{M}_1 := [k_{113} - u_1, \cdots, k_{n13} - u_n], \tag{3}$$

$$\mathbf{M}_2 := [k_{123} - v_1, \cdots, k_{n23} - v_n], \tag{4}$$

$$\mathbf{M}_{3} := \left[ \left( k_{111}(\mathbf{P}_{1})_{\text{row}1}^{\top} + k_{112}(\mathbf{P}_{1})_{\text{row}2}^{\top} \right), \cdots, \left( k_{n11}(\mathbf{P}_{n})_{\text{row}1}^{\top} + k_{n12}(\mathbf{P}_{n})_{\text{row}2}^{\top} \right) \right], \tag{5}$$

$$\mathbf{M}_{4} := \left[ \left( k_{121} (\mathbf{P}_{1})_{\text{row}1}^{\top} + k_{122} (\mathbf{P}_{1})_{\text{row}2}^{\top} \right), \cdots, \left( k_{n21} (\mathbf{P}_{n})_{\text{row}1}^{\top} + k_{n22} (\mathbf{P}_{n})_{\text{row}2}^{\top} \right) \right], \tag{6}$$

$$\mathbf{M}_5 := \left[ (\mathbf{P}_1)_{\text{row}3}^\top, \cdots, (\mathbf{P}_n)_{\text{row}3}^\top \right] \in \mathbb{R}^{3 \times n},\tag{7}$$

$$\mathbf{M}_6 := (\widetilde{\mathbf{x}}_{\text{est}}^w)^\top \mathbf{M}_5, \tag{8}$$

$$\mathbf{M}_7 := \mathbf{M}_1 + \left( (\widetilde{\mathbf{x}}_{\text{est}}^w)^\top \mathbf{M}_3 \right) \oslash \mathbf{M}_6, \tag{9}$$

$$\mathbf{M}_8 := \mathbf{M}_2 + \left( (\widetilde{\mathbf{x}}_{\text{est}}^w)^\top \mathbf{M}_4 \right) \oslash \mathbf{M}_6. \tag{10}$$

Then, by stacking (2) for all views, we obtain the following equation:

$$\begin{bmatrix} (u_{\text{error}})_1 & (u_{\text{error}})_2 & \cdots & (u_{\text{error}})_n \\ (v_{\text{error}})_1 & (v_{\text{error}})_2 & \cdots & (v_{\text{error}})_n \end{bmatrix} = \begin{bmatrix} \mathbf{M}_7 \\ \mathbf{M}_8 \end{bmatrix},$$
(11)

which leads to

$$\left[ \left( u_{\text{error}} \right)_1^2 + \left( v_{\text{error}} \right)_1^2, \cdots, \left( u_{\text{error}} \right)_n^2 + \left( v_{\text{error}} \right)_n^2 \right] = \mathbf{M}_7 \circ \mathbf{M}_7 + \mathbf{M}_8 \circ \mathbf{M}_8. \tag{12}$$

Therefore, the reprojection errors can be obtained as vector  $e_{2D}$  in the following form:

$$\mathbf{e}_{2D}^{\mathsf{T}} = (\mathbf{M}_7 \circ \mathbf{M}_7 + \mathbf{M}_8 \circ \mathbf{M}_8)^{\circ 1/2}. \tag{13}$$

### 3. Proof that $\lambda_i$ and $\lambda_k$ are the depths of the midpoint anchors

The midpoint of the two corresponding rays is basically the midpoint of the closest pair of points on each ray (see Fig. 1). This pair of points is called the "anchors" of the midpoint, and their depths are given by

$$\lambda_{j} = \frac{\left(\widehat{\mathbf{f}}_{j}^{w} \times \widehat{\mathbf{f}}_{k}^{w}\right) \cdot \left(\widehat{\mathbf{f}}_{k}^{w} \times \mathbf{t}_{jk}^{w}\right)}{\left\|\widehat{\mathbf{f}}_{j}^{w} \times \widehat{\mathbf{f}}_{k}^{w}\right\|^{2}}, \quad \lambda_{k} = \frac{\left(\widehat{\mathbf{f}}_{j}^{w} \times \widehat{\mathbf{f}}_{k}^{w}\right) \cdot \left(\widehat{\mathbf{f}}_{j}^{w} \times \mathbf{t}_{jk}^{w}\right)}{\left\|\widehat{\mathbf{f}}_{j}^{w} \times \widehat{\mathbf{f}}_{k}^{w}\right\|^{2}},$$
(14)

<sup>&</sup>lt;sup>1</sup>Here, we treat the matrix  $\mathbf{K}_i$  as if it is a full matrix, but it is in fact an upper triangular matrix:  $k_{i11}$  and  $k_{i22}$  are the focal lengths in the horizontal and vertical direction, respectively.  $k_{i13}$  and  $k_{i23}$  are the horizontal and vertical coordinate of the principal point, respectively.  $k_{i12}$  is the skew coefficient.  $k_{i21}$ ,  $k_{i31}$  and  $k_{i32}$  are equal to zero, and  $k_{i33}$  is equal to one. This supplementary explanation was omitted in the main paper due to the lack of space.

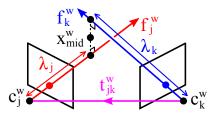


Figure 1. The midpoint of the two corresponding rays.

See [2] for the derivation. Now, define the following quantities:

$$p_{jk} := \widehat{\mathbf{f}}_{j}^{w} \cdot \widehat{\mathbf{f}}_{k}^{w}, \quad q_{jk} := \widehat{\mathbf{f}}_{j}^{w} \cdot \widehat{\mathbf{t}}_{jk}^{w}, \quad r_{jk} := \widehat{\mathbf{f}}_{k}^{w} \cdot \widehat{\mathbf{t}}_{jk}^{w}, \quad s_{jk} := \left\| \mathbf{t}_{jk}^{w} \right\| / \left( 1 - p_{jk}^{2} \right), \tag{15}$$

$$\mu_i := p_{jk}r_{jk} - q_{jk}, \quad \mu_k := -p_{jk}q_{jk} + r_{jk}.$$
 (16)

Then, using the fact that  $(\mathbf{a} \times \mathbf{b}) \cdot (\mathbf{c} \times \mathbf{d}) = (\mathbf{a} \cdot \mathbf{c})(\mathbf{b} \cdot \mathbf{d}) - (\mathbf{a} \cdot \mathbf{d})(\mathbf{b} \cdot \mathbf{c})$  for any  $\mathbf{a}, \mathbf{b}, \mathbf{c}, \mathbf{d}, \in \mathbb{R}^3$ , we can rewrite (14) as

$$\lambda_j := s_{jk}\mu_j, \quad \lambda_k := s_{jk}\mu_k. \tag{17}$$

#### 4. Derivation of $J_i$

Expanding (1), we get

$$(u_{\text{error}})_{i} = -u_{i} + \frac{k_{i11}(r_{i11}x_{\text{est}}^{w} + r_{i12}y_{\text{est}}^{w} + r_{i13}z_{\text{est}}^{w} + t_{i1}) + k_{i12}(r_{i21}x_{\text{est}}^{w} + r_{i22}y_{\text{est}}^{w} + r_{i23}z_{\text{est}}^{w} + t_{i2})}{r_{i31}x_{\text{est}}^{w} + r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3}} + k_{i13},$$

$$= -u_{i} + k_{i13} + \frac{(k_{i11}r_{i11} + k_{i12}r_{i21})x_{\text{est}}^{w} + (k_{i11}r_{i12} + k_{i12}r_{i22})y_{\text{est}}^{w} + (k_{i11}r_{i13} + k_{i12}r_{i23})z_{\text{est}}^{w} + k_{i11}t_{i1} + k_{i12}t_{i2}}{r_{i31}x_{\text{est}}^{w} + r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3}},$$

$$(18)$$

$$(v_{\text{error}})_{i} = -v_{i} + \frac{k_{i21}(r_{i11}x_{\text{est}}^{w} + r_{i12}y_{\text{est}}^{w} + r_{i13}z_{\text{est}}^{w} + t_{i1}) + k_{i22}(r_{i21}x_{\text{est}}^{w} + r_{i22}y_{\text{est}}^{w} + r_{i23}z_{\text{est}}^{w} + t_{i2})}{r_{i31}x_{\text{est}}^{w} + r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3}} + k_{i23}} + k_{i23}$$

$$= -v_{i} + k_{i23} + \frac{(k_{i21}r_{i11} + k_{i22}r_{i21})x_{\text{est}}^{w} + (k_{i21}r_{i12} + k_{i22}r_{i22})y_{\text{est}}^{w} + (k_{i21}r_{i13} + k_{i22}r_{i23})z_{\text{est}}^{w} + k_{i21}t_{i1} + k_{i22}t_{i2}}{r_{i31}x_{\text{est}}^{w} + r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3}},$$

$$(20)$$

(21)

(19)

where  $r_{ijk}$  and  $k_{ijk}$  respectively indicate the elements of  $\mathbf{R}_i$  and  $\mathbf{K}_i$  at the *j*-th row and *k*-th column, and  $t_{ij}$  indicate the *j*-th element of  $\mathbf{t}_i$ . To compute the Jacobian, we take the partial derivatives with respect to  $r^w$ ,  $r^w$ , and  $r^w$ .

$$j$$
-th element of  $\mathbf{t}_i$ . To compute the Jacobian, we take the partial derivatives with respect to  $x_{\mathrm{est}}^w$ ,  $y_{\mathrm{est}}^w$  and  $z_{\mathrm{est}}^w$ . Using the fact that  $\frac{d}{dx}\left(\frac{ax+b}{cx+d}\right) = \frac{ad-bc}{(cx+d)^2}$ , we obtain the following:

$$\frac{\partial (u_{\text{error}})_{i}}{\partial x_{\text{est}}^{w}} = \frac{(k_{i11}r_{i11} + k_{i12}r_{i21})(r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3}) - r_{i31}\left[(k_{i11}r_{i12} + k_{i12}r_{i22})y_{\text{est}}^{w} + (k_{i11}r_{i13} + k_{i12}r_{i23})z_{\text{est}}^{w} + k_{i11}t_{i1} + k_{i12}t_{i2}\right]}{(r_{i31}x_{\text{est}}^{w} + r_{i32}y_{\text{est}}^{w} + t_{i33}z_{\text{est}}^{w} + t_{i3})^{2}}$$
(22)

$$\frac{\partial (v_{\text{error}})_{i}}{\partial x_{\text{est}}^{w}} = \frac{(k_{i21}r_{i11} + k_{i22}r_{i21})(r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3}) - r_{i31}\left[(k_{i21}r_{i12} + k_{i22}r_{i22})y_{\text{est}}^{w} + (k_{i21}r_{i13} + k_{i22}r_{i23})z_{\text{est}}^{w} + k_{i21}t_{i1} + k_{i22}t_{i2}\right]}{(r_{i31}x_{\text{est}}^{w} + r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3})^{2}}$$
(23)

$$\frac{\partial (u_{\text{error}})_{i}}{\partial y_{\text{est}}^{w}} = \frac{(k_{i11}r_{i12} + k_{i12}r_{i22})(r_{i31}x_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3}) - r_{i32}\left[(k_{i11}r_{i11} + k_{i12}r_{i21})x_{\text{est}}^{w} + (k_{i11}r_{i13} + k_{i12}r_{i23})z_{\text{est}}^{w} + k_{i11}t_{i1} + k_{i12}t_{i2}\right]}{(r_{i31}x_{\text{est}}^{w} + r_{i32}y_{\text{est}}^{w} + r_{i33}z_{\text{est}}^{w} + t_{i3})^{2}}$$
(24)

$$\frac{\partial (v_{\text{error}})_i}{\partial y_{\text{est}}^w} = \frac{(k_{i21}r_{i12} + k_{i22}r_{i22})(r_{i31}x_{\text{est}}^w + r_{i33}z_{\text{est}}^w + t_{i3}) - r_{i32}\left[(k_{i21}r_{i11} + k_{i22}r_{i21})x_{\text{est}}^w + (k_{i21}r_{i13} + k_{i22}r_{i23})z_{\text{est}}^w + k_{i21}t_{i1} + k_{i22}t_{i2}\right]}{(r_{i31}x_{\text{est}}^w + r_{i32}y_{\text{est}}^w + r_{i33}z_{\text{est}}^w + t_{i3})^2}$$

$$\frac{\partial (u_{\text{error}})_i}{\partial z_{\text{est}}^w} = \frac{(k_{i11}r_{i13} + k_{i12}r_{i23})(r_{i31}x_{\text{est}}^w + r_{i32}y_{\text{est}}^w + t_{i3}) - r_{i33}\left[(k_{i11}r_{i11} + k_{i12}r_{i21})x_{\text{est}}^w + (k_{i11}r_{i12} + k_{i12}r_{i22})y_{\text{est}}^w + k_{i11}t_{i1} + k_{i12}t_{i2}\right]}{(r_{i31}x_{\text{est}}^w + r_{i32}y_{\text{est}}^w + r_{i33}z_{\text{est}}^w + t_{i3})^2}$$
(26)

$$\frac{\partial (v_{\text{error}})_i}{\partial z_{\text{est}}^w} = \frac{(k_{i21}r_{i13} + k_{i22}r_{i23})(r_{i31}x_{\text{est}}^w + r_{i32}y_{\text{est}}^w + t_{i3}) - r_{i33}\left[(k_{i21}r_{i11} + k_{i22}r_{i21})x_{\text{est}}^w + (k_{i21}r_{i12} + k_{i22}r_{i22})y_{\text{est}}^w + k_{i21}t_{i1} + k_{i22}t_{i2}\right]}{(r_{i31}x_{\text{est}}^w + r_{i32}y_{\text{est}}^w + r_{i33}z_{\text{est}}^w + t_{i3})^2}$$
(27)

Letting  $\widetilde{\mathbf{x}}_{\text{est}}^w = \begin{vmatrix} \mathbf{x}_{\text{est}}^w \\ 1 \end{vmatrix}$  and  $\mathbf{P}_i = [\mathbf{R}_i \mid \mathbf{t}_i]$ , we can rearrange these equations as follows:

$$\frac{\partial (u_{\text{error}})_i}{\partial x_{\text{est}}^w} = \frac{\mathbf{a}_{1i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left((\mathbf{P}_i)_{\text{row3}} \widetilde{\mathbf{x}}_{\text{est}}^w\right)^2}, \quad \frac{\partial (v_{\text{error}})_i}{\partial x_{\text{est}}^w} = \frac{\mathbf{a}_{2i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left((\mathbf{P}_i)_{\text{row3}} \widetilde{\mathbf{x}}_{\text{est}}^w\right)^2}, \qquad (28)$$

$$\frac{\partial (u_{\text{error}})_i}{\partial y_{\text{est}}^w} = \frac{\mathbf{a}_{3i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left((\mathbf{P}_i)_{\text{row3}} \widetilde{\mathbf{x}}_{\text{est}}^w\right)^2}, \quad \frac{\partial (v_{\text{error}})_i}{\partial y_{\text{est}}^w} = \frac{\mathbf{a}_{4i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left((\mathbf{P}_i)_{\text{row3}} \widetilde{\mathbf{x}}_{\text{est}}^w\right)^2}, \qquad (29)$$

$$\frac{\partial (u_{\text{error}})_i}{\partial z_{\text{est}}^w} = \frac{\mathbf{a}_{5i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left((\mathbf{P}_i)_{\text{row3}} \widetilde{\mathbf{x}}_{\text{est}}^w\right)^2}, \quad \frac{\partial (v_{\text{error}})_i}{\partial z_{\text{est}}^w} = \frac{\mathbf{a}_{6i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left((\mathbf{P}_i)_{\text{row3}} \widetilde{\mathbf{x}}_{\text{est}}^w\right)^2}, \qquad (30)$$

$$\frac{\partial (u_{\text{error}})_i}{\partial y_{\text{est}}^w} = \frac{\mathbf{a}_{3i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left( (\mathbf{P}_i)_{\text{row}3} \widetilde{\mathbf{x}}_{\text{est}}^w \right)^2}, \quad \frac{\partial (v_{\text{error}})_i}{\partial y_{\text{est}}^w} = \frac{\mathbf{a}_{4i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left( (\mathbf{P}_i)_{\text{row}3} \widetilde{\mathbf{x}}_{\text{est}}^w \right)^2}, \tag{29}$$

$$\frac{\partial (u_{\text{error}})_i}{\partial z_{\text{est}}^w} = \frac{\mathbf{a}_{5i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left( (\mathbf{P}_i)_{\text{row}} 3 \widetilde{\mathbf{x}}_{\text{est}}^w \right)^2}, \quad \frac{\partial (v_{\text{error}})_i}{\partial z_{\text{est}}^w} = \frac{\mathbf{a}_{6i}^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w}{\left( (\mathbf{P}_i)_{\text{row}} 3 \widetilde{\mathbf{x}}_{\text{est}}^w \right)^2},$$
(30)

with

$$\mathbf{a}_{1i} = \begin{bmatrix} 0 \\ k_{i11}(r_{i11}r_{i32} - r_{i31}r_{i12}) + k_{i12}(r_{i21}r_{i32} - r_{i31}r_{i22}) \\ k_{i11}(r_{i11}r_{i33} - r_{i31}r_{i13}) + k_{i12}(r_{i21}r_{i33} - r_{i31}r_{i23}) \\ k_{i11}(r_{i11}t_{i3} - r_{i31}t_{i1}) + k_{i12}(r_{i21}t_{i3} - r_{i31}t_{i2}) \end{bmatrix}, \quad \mathbf{a}_{2i} = \begin{bmatrix} 0 \\ k_{i21}(r_{i11}r_{i32} - r_{i31}r_{i12}) + k_{i22}(r_{i21}r_{i32} - r_{i31}r_{i22}) \\ k_{i21}(r_{i11}r_{i33} - r_{i31}r_{i13}) + k_{i22}(r_{i21}r_{i33} - r_{i31}r_{i23}) \\ k_{i21}(r_{i11}t_{i3} - r_{i31}t_{i1}) + k_{i22}(r_{i21}t_{i3} - r_{i31}t_{i2}) \end{bmatrix},$$

$$(31)$$

$$\mathbf{a}_{3i} = \begin{bmatrix} k_{i11}(r_{i12}r_{i31} - r_{i32}r_{i11}) + k_{i12}(r_{i22}r_{i31} - r_{i32}r_{i21}) \\ 0 \\ k_{i11}(r_{i12}r_{i33} - r_{i32}r_{i13}) + k_{i12}(r_{i22}r_{i33} - r_{i32}r_{i23}) \\ k_{i11}(r_{i12}t_{i3} - r_{i32}t_{i1}) + k_{i12}(r_{i22}t_{i3} - r_{i32}t_{i2}) \end{bmatrix}, \quad \mathbf{a}_{4i} = \begin{bmatrix} k_{i21}(r_{i12}r_{i31} - r_{i32}r_{i11}) + k_{i22}(r_{i22}r_{i31} - r_{i32}r_{i21}) \\ 0 \\ k_{i21}(r_{i12}r_{i33} - r_{i32}r_{i13}) + k_{i22}(r_{i22}r_{i33} - r_{i32}r_{i23}) \\ k_{i21}(r_{i12}t_{i3} - r_{i32}t_{i1}) + k_{i22}(r_{i22}t_{i3} - r_{i32}t_{i2}) \end{bmatrix}, \quad (32)$$

$$\mathbf{a}_{5i} = \begin{bmatrix} k_{i11}(r_{i13}r_{i31} - r_{i33}r_{i11}) + k_{i12}(r_{i23}r_{i31} - r_{i33}r_{i21}) \\ k_{i11}(r_{i13}r_{i32} - r_{i33}r_{i12}) + k_{i12}(r_{i23}r_{i32} - r_{i33}r_{i22}) \\ 0 \\ k_{i11}(r_{i13}t_{i3} - r_{i33}t_{i1}) + k_{i12}(r_{i23}t_{i3} - r_{i33}t_{i2}) \end{bmatrix}, \quad \mathbf{a}_{6i} = \begin{bmatrix} k_{i21}(r_{i13}r_{i31} - r_{i33}r_{i11}) + k_{i22}(r_{i23}r_{i31} - r_{i33}r_{i21}) \\ k_{i21}(r_{i13}r_{i32} - r_{i33}r_{i12}) + k_{i22}(r_{i23}r_{i32} - r_{i33}r_{i22}) \\ 0 \\ k_{i21}(r_{i13}t_{i3} - r_{i33}t_{i1}) + k_{i22}(r_{i23}t_{i3} - r_{i33}t_{i2}) \end{bmatrix}.$$

$$(33)$$

The vector  $\mathbf{a}_{1i}, \dots, \mathbf{a}_{6i}$  can also be written in the following form:

$$\mathbf{a}_{1i} = k_{i11}\mathbf{b}_{1i} + k_{i12}\mathbf{b}_{2i}, \quad \mathbf{a}_{2i} = k_{i21}\mathbf{b}_{1i} + k_{i22}\mathbf{b}_{2i}, \quad \mathbf{a}_{3i} = k_{i11}\mathbf{b}_{3i} + k_{i12}\mathbf{b}_{4i},$$
 (34)

$$\mathbf{a}_{4i} = k_{i21}\mathbf{b}_{3i} + k_{i22}\mathbf{b}_{4i}, \quad \mathbf{a}_{5i} = k_{i11}\mathbf{b}_{5i} + k_{i12}\mathbf{b}_{6i}, \quad \mathbf{a}_{6i} = k_{i21}\mathbf{b}_{5i} + k_{i22}\mathbf{b}_{6i},$$
 (35)

with

$$\mathbf{b}_{1i} := r_{i11} \left[ 0, r_{i32}, r_{i33}, t_{i3} \right]^{\top} - r_{i31} \left[ 0, r_{i12}, r_{i13}, t_{i1} \right]^{\top}, \quad \mathbf{b}_{2i} := r_{i21} \left[ 0, r_{i32}, r_{i33}, t_{i3} \right]^{\top} - r_{i31} \left[ 0, r_{i22}, r_{i23}, t_{i2} \right]^{\top}, \quad (36)$$

$$\mathbf{b}_{3i} := r_{i12} \left[ r_{i31}, 0, r_{i33}, t_{i3} \right]^{\top} - r_{i32} \left[ r_{i11}, 0, r_{i13}, t_{i1} \right]^{\top}, \quad \mathbf{b}_{4i} := r_{i22} \left[ r_{i31}, 0, r_{i33}, t_{i3} \right]^{\top} - r_{i32} \left[ r_{i21}, 0, r_{i23}, t_{i2} \right]^{\top}, \quad (37)$$

$$\mathbf{b}_{5i} := r_{i13} \left[ r_{i31}, r_{i32}, 0, t_{i3} \right]^{\mathsf{T}} - r_{i33} \left[ r_{i11}, r_{i12}, 0, t_{i1} \right]^{\mathsf{T}}, \quad \mathbf{b}_{6i} := r_{i23} \left[ r_{i31}, r_{i32}, 0, t_{i3} \right]^{\mathsf{T}} - r_{i33} \left[ r_{i21}, r_{i22}, 0, t_{i2} \right]^{\mathsf{T}}. \tag{38}$$

Putting (28)–(30) together in one vector, we get

$$\begin{bmatrix} \partial(u_{\text{error}})_i/\partial x_{\text{est}}^w \\ \partial(v_{\text{error}})_i/\partial x_{\text{est}}^w \\ \partial(u_{\text{error}})_i/\partial y_{\text{est}}^w \\ \partial(v_{\text{error}})_i/\partial y_{\text{est}}^w \\ \partial(u_{\text{error}})_i/\partial z_{\text{est}}^w \end{bmatrix} = ((\mathbf{P}_i)_{\text{row}3} \widetilde{\mathbf{x}}_{\text{est}}^w)^{-2} \mathbf{A}_i^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w \quad \text{with} \quad \mathbf{A}_i = [\mathbf{a}_{1i} \ \mathbf{a}_{2i} \ \mathbf{a}_{3i} \ \mathbf{a}_{4i} \ \mathbf{a}_{5i} \ \mathbf{a}_{6i}]. \tag{39}$$

$$\frac{\partial(u_{\text{error}})_i/\partial z_{\text{est}}^w}{\partial(v_{\text{error}})_i/\partial z_{\text{est}}^w}$$

Therefore, the Jacobian matrix for camera  $c_i$  is given by

$$\mathbf{J}_{i} = \begin{bmatrix} \frac{\partial (u_{\text{error}})_{i}}{\partial x_{\text{est}}^{w}} & \frac{\partial (u_{\text{error}})_{i}}{\partial y_{\text{est}}^{w}} & \frac{\partial (u_{\text{error}})_{i}}{\partial z_{\text{est}}^{w}} \\ \frac{\partial (v_{\text{error}})_{i}}{\partial x_{\text{est}}^{w}} & \frac{\partial (v_{\text{error}})_{i}}{\partial y_{\text{est}}^{w}} & \frac{\partial (v_{\text{error}})_{i}}{\partial z_{\text{est}}^{w}} \end{bmatrix}$$

$$(40)$$

$$= \operatorname{vec}_{2\times 3}^{-1} \left( ((\mathbf{P}_i)_{\text{row}3} \widetilde{\mathbf{x}}_{\text{est}}^w)^{-2} \mathbf{A}_i^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w \right)$$
(41)

$$= ((\mathbf{P}_i)_{\text{row3}}\widetilde{\mathbf{x}}_{\text{est}}^w)^{-2} \operatorname{vec}_{2\times 3}^{-1} \left( \mathbf{A}_i^{\top} \widetilde{\mathbf{x}}_{\text{est}}^w \right). \tag{42}$$

#### 5. Monotone smoothing

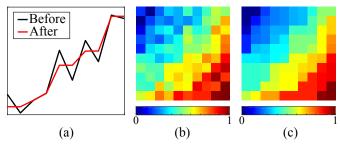


Figure 2. (a): Monotone smoothing example on 1D data. (b)-(c): 2D example before and after smoothing.

We propose a simple smoothing method that enforces the monotonicity. Our method iteratively updates the data using the following rule:

$$x_{\text{new}} \leftarrow \frac{1}{|\mathcal{N}|} \sum_{i \in \mathcal{N}} f(x_{\text{old}}, x_i) \quad \text{with} \quad f(x_{\text{old}}, x_i) = \begin{cases} x_{\text{old}} & \text{if } x_{\text{old}} \text{ and } x_i \text{ fulfills the desired monotonicity,} \\ 0.5(x_{\text{old}} + x_i) & \text{otherwise,} \end{cases}$$
(43)

where  $x_{\text{old}}$  and  $x_{\text{new}}$  are the data values before and after the update,  $\mathcal{N}$  is the set of its neighbors, and  $x_{i \in \mathcal{N}}$  is the data value of the i-th neighbor. Basically, (43) means that each neighbor of the data point  $x_{\text{old}}$  votes on how much  $x_{\text{old}}$  should change. If the neighbor  $x_i$  is already fulfilling the desired monotonicity, it votes for no change. Otherwise, it votes for changing  $x_{\text{old}}$  to  $0.5(x_{\text{old}} + x_i)$  in order to bring it closer to itself. Once every neighbor casts a vote, we average it to determine  $x_{\text{new}}$ . Since we do not want the update order to influence the result, we use the pre-update values for the neighbor  $x_i$ . Only after every data point is assigned a new value, we update them altogether at once. We repeat this process until convergence.

Fig. 2(a) illustrates an example on 1D data. Each data point has either one neighbor (if it is located at the boundary) or two neighbors. Notice that our method flattens out the "bumps" that violate the desired monotonicity. Fig. 2(b)–(c) shows an example on 2D data. In this case, each data point has either two neighbors (if it is located at the corner), three neighbors (if it is located at the edge), or four neighbors. In contrast to the noisy input, the output is both smooth and monotonic.

In the main paper, we apply the smoothing on a 3D grid. We present the results in the next section.

#### 6. 3D uncertainty estimation results

Tab. 1. lists the parameters we used to configure the simulation. We refer to the main paper for the details of the simulation setup. Notice that we vary  $n_{\rm run}$  depending on the number of cameras. We found that fewer simulations are sufficient for larger number of cameras, as the result converges more quickly. Fig. 3 visualizes all the results related to the 3D uncertainty estimation. Fig. 4–26 compare the raw and the smoothed results for 2–50 cameras. Tab. 3–48 provide the numeric values corresponding to these figures.

n	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 35, 40, 45, 50.
d	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30.
σ (pix)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30.
$n_{run}$	10000 if $n \le 5$ , 5000 if $6 < n \le 20$ , and 3000 if $n > 20$ .

Table 1. Simulation setup for the 3D uncertainty estimation. n: number of cameras, d: distance between the point and the origin,  $\sigma$ : std. dev. of Gaussian noise in the image coordinates,  $n_{\text{run}}$ : number of independent simulation runs for each configuration  $(n, d, \sigma)$ .

#### 7. Comparison of the local optimization methods: DLT vs. Gauss-Newton (GN)

Tab. 2. lists the parameters we used to configure the simulation. Its setup is similar to that for the 3D uncertainty estimation described in the main paper. We used the solution of DLT as the initial seed for GN.

Fig. 27 and 28 respectively show the mean and the maximum <u>decrease</u> of 2D error by performing GN in addition to DLT. As discussed in the main document, GN sometimes reduces the 2D error significantly, even when the average difference is small. This effect amplifies as

- the number of cameras decreases,
- the mean image noise increases, and
- the maximum parallax angle increases.

In Fig. 29, we additionally show the maximum increase of 2D error by performing GN in addition to DLT. Notice that GN does not always reduce the 2D error in  $L_1$  norm. This is because it is designed to minimize the  $L_2$  norm, which does not always correlate positively with the  $L_1$  norm. Nonetheless, on the few occasions when this happens, GN causes only a small increase of  $L_1$  error.

Fig. 30, 31 and 32 respectively show the mean <u>decrease</u>, the maximum <u>decrease</u> and the maximum <u>increase</u> of 3D error by performing GN in addition to DLT. As explained in the main document, the two methods have a similar 3D accuracy most of the time, and the comparison is inconsistent only when the maximum parallax angle is very small.

n	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 30, 40, 50.
d	0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2, 2.2, 2.4, 2.6, 2.8, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30.
σ (pix)	1, 3, 5, 7, 9, 11, 13, 15.
$n_{ m run}$	2000

Table 2. Simulation setup for comparing DLT and GN. n: number of cameras, d: distance between the point and the origin,  $\sigma$ : std. dev. of Gaussian noise in the image coordinates,  $n_{\text{run}}$ : number of independent simulation runs for each configuration  $(n, d, \sigma)$ .

# 8. Reconstruction results on real data: With and without the pruning based on the estimated uncertainty

In the main paper, we claimed that "some of the most inaccurate points are removed" by pruning the most uncertain points identified by our method. This could be seen qualitatively by inspecting the reconstruction results of the real data. In Fig. 33, 34 and 35, we present the larger images of the reconstruction results for better comparison.

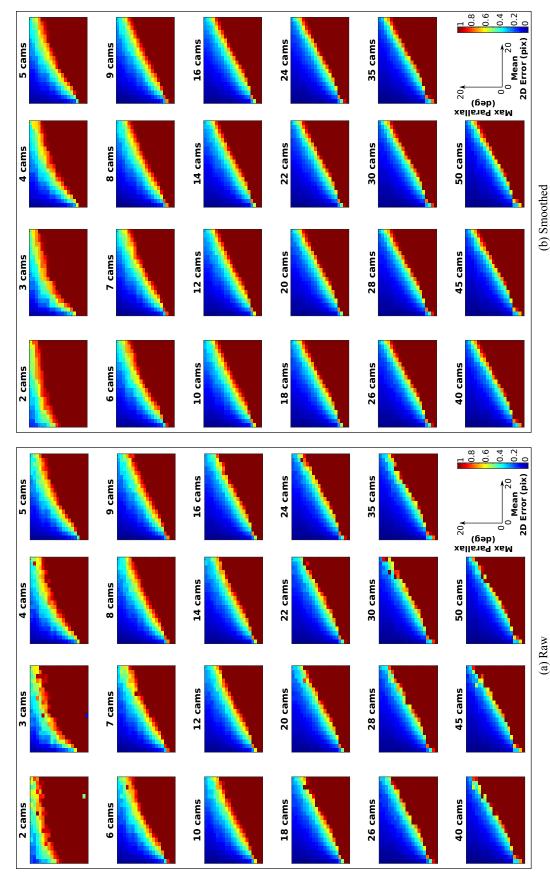


Figure 3. RMS of the 3D errors for different numbers of cameras, maximum parallax angles and mean 2D errors. We present the raw result, as well as the smoothed result (using the monotone smoothing proposed in the main paper).

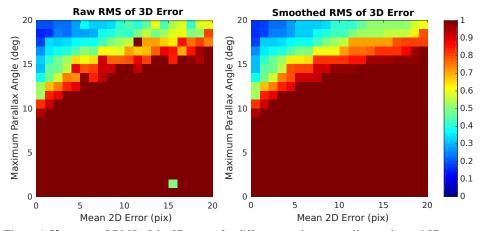


Figure 4. [2 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											N	Mean 2D	error (pi	ix)							
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9-10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18-19	19–20
	19-20	0.2	0.19	0.23	0.22	0.28	0.37	0.33	0.33	0.33	0.41	0.44	0.4	0.46	0.6	0.43	0.54	0.58	0.42	0.59	0.6
	18-19	0.14	0.17	0.24	0.23	0.27	0.28	0.29	0.38	0.4	0.44	0.41	0.49	0.55	0.48	0.52	0.59	0.6	0.49	0.51	0.8
	17-18	0.18	0.33	0.32	0.33	0.37	0.38	0.39	0.43	0.49	0.53	0.55	1.0	0.71	0.72	0.66	0.63	0.86	0.76	0.81	0.75
	16–17	0.25	0.35	0.38	0.39	0.45	0.51	0.48	0.62	0.6	0.59	0.72	0.67	0.68	0.78	0.88	0.85	0.69	0.85	0.96	1.0
- Co	15–16	0.32	0.41	0.48	0.53	0.66	0.6		0.91	0.77	0.77	0.79	0.89	0.81	1.0	1.0	0.84	1.0	0.98	0.95	1.0
(deg)	14–15	0.3	0.47	0.48	0.55	0.89	0.78	0.8	0.91	0.92	1.0	0.99	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
e (	13-14	0.38	0.48	0.57	0.75	0.73	0.97	0.84	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
angle	12–13	0.52	0.68	0.75	0.84	0.89	0.99	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	11–12	0.52	0.84	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.82	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l pg	8–9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
um	7–8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maxim	5–6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
_	4–5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.49	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 3. [2 cameras] Raw RMS of 3D errors (corresponding to the left of Fig. 4).

											N	Mean 2D	error (pi	ix)							
		0-1	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12–13	13-14	14–15	15–16	16–17	17-18	18–19	19–20
	19-20	0.17	0.18	0.22	0.22	0.28	0.31	0.31	0.33	0.33	0.41	0.42	0.42	0.46	0.5	0.5	0.51	0.51	0.51	0.57	0.6
	18-19	0.17	0.18	0.24	0.24	0.28	0.31	0.31	0.38	0.4	0.43	0.43	0.49	0.52	0.52	0.52	0.56	0.56	0.56	0.63	0.78
	17-18	0.18	0.33	0.33	0.33	0.37	0.38	0.39	0.43	0.49	0.53	0.55	0.71	0.71	0.71	0.71	0.71	0.8	0.8	0.8	0.8
	16–17	0.25	0.35	0.38	0.39	0.45	0.5	0.5	0.6	0.6	0.6	0.71	0.75	0.75	0.78	0.82	0.82	0.82	0.87	0.96	1.0
50	15–16	0.31	0.41	0.48	0.53	0.63	0.63	0.65	0.82	0.82	0.82	0.82	0.85	0.85	0.96	0.96	0.96	0.98	0.98	0.98	1.0
(deg)	14–15	0.31	0.47	0.48	0.55	0.8	0.81	0.81	0.91	0.92	0.97	0.97	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
(e)	13–14	0.38	0.48	0.57	0.75	0.8	0.91	0.91	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
angle	12–13	0.52	0.68	0.75	0.84	0.89	0.99	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	11–12	0.52	0.84	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.82	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l E	7–8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	6–7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
lay.	5–6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 4. [2 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 4).

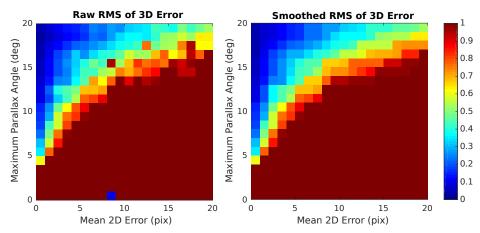


Figure 5. [3 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Me	an 2D e	rror (pix	)							
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.042	0.076	0.1	0.13	0.15	0.18	0.24	0.23	0.27	0.26	0.32	0.34	0.35	0.43	0.42	0.38	0.49	0.43	0.48	0.53
	18–19	0.029	0.057	0.084	0.12	0.13	0.16	0.22	0.21	0.27	0.34	0.37	0.37	0.35	0.41	0.51	0.52	0.57	0.53	0.63	0.63
	17-18	0.045	0.08	0.12	0.16	0.21	0.22	0.26	0.3	0.33	0.38	0.4	0.44	0.76	0.48	0.53	0.53	0.75	0.95	0.62	0.61
	16-17	0.047	0.095	0.18	0.23	0.32	0.26	0.33	0.39	0.42	0.46	0.58	0.52	0.52	0.67	0.77	0.62	0.68	0.93	0.77	1.0
	15–16	0.061	0.12	0.19	0.27	0.33	0.41	0.47	0.42	0.95	0.53	0.67	0.81	0.75	0.79	0.75	0.96	0.91	0.98	1.0	1.0
(deg)	14–15	0.056	0.12	0.19	0.25	0.33	0.43	0.42	0.53	0.55	0.75	0.7	0.76	0.82	0.86	1.0	1.0	0.94	0.93	1.0	1.0
e (e	13-14	0.065	0.13	0.25	0.26	0.36	0.45	0.71	0.62	0.77	1.0	0.9	1.0	0.95	0.98	1.0	1.0	1.0	1.0	1.0	1.0
angle	12-13	0.093	0.21	0.4	0.45	0.49	0.68	0.68	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	11–12	0.087	0.18	0.32	0.43	0.54	0.77	0.81	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.14	0.26	0.47	0.62	0.79	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.16	0.28	0.57	0.75	0.82	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.18	0.42	0.57	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
H	7–8	0.22	0.5	0.75	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.3	0.57	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.35	0.78	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 5. [3 cameras] Raw RMS of 3D errors (corresponding to the left of Fig. 5).

											Ме	an 2D e	rror (pix)	)							
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.035	0.065	0.093	0.12	0.14	0.17	0.22	0.22	0.27	0.27	0.32	0.34	0.35	0.41	0.41	0.41	0.46	0.46	0.48	0.53
	18–19	0.035	0.065	0.093	0.12	0.14	0.17	0.22	0.22	0.27	0.34	0.36	0.36	0.36	0.42	0.51	0.52	0.54	0.54	0.63	0.64
	17-18	0.045	0.08	0.12	0.16	0.21	0.22	0.26	0.3	0.33	0.38	0.4	0.44	0.56	0.56	0.56	0.56	0.71	0.72	0.72	0.72
	16-17	0.047	0.095	0.18	0.23	0.29	0.29	0.33	0.39	0.42	0.46	0.55	0.55	0.59	0.67	0.7	0.7	0.71	0.84	0.84	1.0
	15-16	0.059	0.12	0.19	0.26	0.33	0.41	0.44	0.44	0.67	0.67	0.67	0.77	0.77	0.77	0.77	0.92	0.92	0.97	0.98	1.0
(deg)	14–15	0.059	0.12	0.19	0.26	0.33	0.43	0.44	0.53	0.67	0.73	0.73	0.78	0.82	0.86	0.98	0.98	0.98	0.98	1.0	1.0
e	13-14	0.065	0.13	0.25	0.26	0.36	0.45	0.66	0.66	0.77	0.95	0.95	0.98	0.98	0.98	1.0	1.0	1.0	1.0	1.0	1.0
angle	12-13	0.09	0.19	0.36	0.44	0.49	0.68	0.69	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	11-12	0.09	0.19	0.36	0.44	0.54	0.77	0.81	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.14	0.26	0.47	0.62	0.79	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9-10	0.16	0.28	0.57	0.75	0.82	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.18	0.42	0.57	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.22	0.5	0.75	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.3	0.57	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ta y	5–6	0.35	0.78	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 6. [3 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 5).

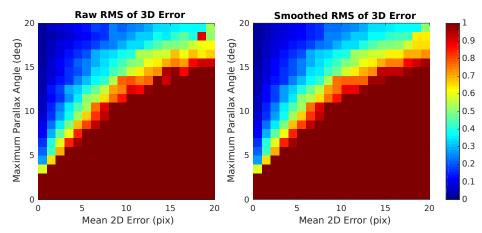


Figure 6. [4 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Me	an 2D er	ror (pix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.024	0.052	0.075	0.091	0.11	0.13	0.17	0.17	0.24	0.21	0.24	0.26	0.28	0.33	0.34	0.35	0.37	0.36	0.37	0.52
İ	18–19	0.021	0.04	0.058	0.078	0.1	0.11	0.14	0.16	0.24	0.25	0.28	0.33	0.32	0.39	0.34	0.41	0.45	0.4	0.9	0.5
	17–18	0.021	0.056	0.082	0.11	0.14	0.15	0.19	0.22	0.25	0.3	0.33	0.34	0.4	0.45	0.5	0.49	0.51	0.57	0.6	0.62
	16–17	0.025	0.056	0.085	0.13	0.17	0.2	0.28	0.32	0.34	0.38	0.41	0.54	0.54	0.57	0.56	0.68	0.59	0.67	0.64	0.67
	15–16	0.026	0.063	0.11	0.15	0.21	0.24	0.29	0.34	0.39	0.44	0.5	0.51	0.6	0.63	0.7	0.74	0.71	0.86	0.92	0.92
(deg)	14–15	0.032	0.069	0.11	0.16	0.2	0.25	0.33	0.35	0.44	0.48	0.57	0.63	0.7	0.73	0.94	0.98	0.87	1.0	1.0	1.0
(e)	13–14	0.038	0.085	0.13	0.17	0.25	0.31	0.37	0.41	0.53	0.77	0.79	0.75	0.77	0.99	0.91	1.0	1.0	1.0	1.0	1.0
angle	12–13	0.045	0.13	0.18	0.28	0.32	0.39	0.48	0.55	0.7	0.75	0.89	0.86	0.98	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	11–12	0.052	0.11	0.17	0.25	0.35	0.51	0.54	0.65	0.75	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
la,	10–11	0.062	0.15	0.24	0.35	0.45	0.52	0.76	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	9–10	0.075	0.17	0.28	0.38	0.53	0.67	0.82	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.095	0.22	0.36	0.5	0.69	0.81	0.94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.12	0.28	0.46	0.6	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<u>.</u> E	6–7	0.16	0.39	0.59	0.83	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tay	5–6	0.21	0.43	0.69	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.27	0.65	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.58	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 7. [4 cameras] Raw RMS of 3D errors (corresponding to the left of Fig. 6).

												20									
		0.1		2.2	2.4					0.0			ror (pix)	10 10	10 11		15 17	17.15	15 10	10.10	10.00
		0-1	1–2	2–3	3–4	4–5	5–6	6-7	7–8	8–9	9–10	10–11	11–12	12–13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.022	0.045	0.066	0.084	0.11	0.12	0.15	0.16	0.22	0.22	0.24	0.26	0.28	0.33	0.34	0.36	0.37	0.37	0.37	0.52
	18–19	0.022	0.045	0.066	0.084	0.11	0.12	0.15	0.16	0.24	0.25	0.28	0.33	0.33	0.37	0.37	0.41	0.43	0.43	0.63	0.64
	17–18	0.022	0.056	0.082	0.11	0.14	0.15	0.19	0.22	0.25	0.3	0.33	0.34	0.4	0.45	0.49	0.49	0.51	0.57	0.65	0.65
	16-17	0.025	0.056	0.085	0.13	0.17	0.2	0.28	0.32	0.34	0.38	0.41	0.52	0.54	0.57	0.57	0.64	0.64	0.69	0.69	0.72
	15-16	0.026	0.063	0.11	0.15	0.2	0.24	0.29	0.34	0.39	0.44	0.5	0.52	0.6	0.63	0.7	0.74	0.74	0.86	0.92	0.96
(deg)	14–15	0.032	0.069	0.11	0.16	0.2	0.25	0.33	0.35	0.44	0.48	0.57	0.63	0.7	0.73	0.93	0.93	0.93	0.97	1.0	1.0
	13-14	0.038	0.085	0.13	0.17	0.25	0.31	0.37	0.41	0.53	0.76	0.77	0.77	0.77	0.95	0.95	1.0	1.0	1.0	1.0	1.0
angle	12-13	0.045	0.12	0.18	0.27	0.32	0.39	0.48	0.55	0.7	0.76	0.88	0.88	0.98	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	11-12	0.052	0.12	0.18	0.27	0.35	0.51	0.54	0.65	0.75	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.062	0.15	0.24	0.35	0.45	0.52	0.76	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
[ra]	9-10	0.075	0.17	0.28	0.38	0.53	0.67	0.82	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.095	0.22	0.36	0.5	0.69	0.81	0.94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.12	0.28	0.46	0.6	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<u> </u>	6–7	0.16	0.39	0.59	0.83	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ax	5–6	0.21	0.43	0.69	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Σ	4–5	0.27	0.65	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.58	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 8. [4 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 6).

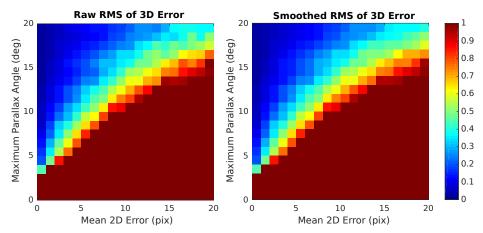


Figure 7. [5 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mea	n 2D err	or (pix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19-20
	19–20	0.018	0.039	0.062	0.082	0.095	0.11	0.13	0.14	0.17	0.18	0.2	0.25	0.26	0.25	0.3	0.36	0.39	0.38	0.37	0.37
	18–19	0.017	0.033	0.05	0.069	0.084	0.1	0.12	0.13	0.17	0.2	0.24	0.25	0.28	0.31	0.36	0.34	0.39	0.47	0.39	0.51
	17–18	0.017	0.041	0.067	0.087	0.1	0.13	0.15	0.18	0.21	0.25	0.26	0.34	0.36	0.44	0.42	0.48	0.45	0.5	0.53	0.58
	16–17	0.018	0.042	0.068	0.1	0.13	0.17	0.2	0.24	0.28	0.34	0.33	0.39	0.47	0.51	0.46	0.51	0.62	0.65	0.66	0.77
٦٥	15–16	0.022	0.055	0.088	0.13	0.16	0.2	0.23	0.3	0.3	0.35	0.38	0.47	0.48	0.54	0.64	0.68	0.78	0.74	0.81	1.0
deg)	14–15	0.026	0.057	0.092	0.12	0.14	0.19	0.22	0.29	0.34	0.42	0.52	0.53	0.61	0.65	0.74	0.76	0.85	0.9	0.92	0.98
	13–14	0.03	0.067	0.1	0.14	0.18	0.24	0.26	0.34	0.41	0.51	0.59	0.6	0.69	0.73	0.95	0.94	0.96	1.0	1.0	1.0
angle	12–13	0.034	0.08	0.13	0.19	0.24	0.31	0.38	0.45	0.54	0.6	0.7	0.8	0.87	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	11–12	0.042	0.085	0.14	0.2	0.26	0.35	0.44	0.49	0.63	0.74	0.81	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.049	0.11	0.18	0.27	0.34	0.43	0.51	0.63	0.85	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.06	0.13	0.22	0.31	0.41	0.55	0.62	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.074	0.17	0.32	0.39	0.53	0.65	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.096	0.21	0.35	0.52	0.65	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
. <u>E</u>	6–7	0.13	0.29	0.46	0.61	0.78	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
(3)	5–6	0.16	0.35	0.55	0.76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.2	0.47	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.44	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 9. [5 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 7).

											Mea	n 2D err	or (pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17-18	18–19	19–20
	19–20	0.017	0.036	0.055	0.075	0.089	0.11	0.12	0.14	0.17	0.18	0.2	0.25	0.25	0.25	0.3	0.36	0.37	0.37	0.37	0.4
	18–19	0.017	0.036	0.055	0.075	0.089	0.11	0.12	0.14	0.17	0.2	0.24	0.25	0.28	0.31	0.35	0.37	0.39	0.43	0.45	0.51
	17–18	0.017	0.041	0.067	0.087	0.1	0.13	0.15	0.18	0.21	0.25	0.26	0.34	0.36	0.43	0.43	0.47	0.47	0.5	0.53	0.59
	16–17	0.018	0.042	0.068	0.1	0.13	0.17	0.2	0.24	0.28	0.33	0.33	0.39	0.47	0.49	0.49	0.52	0.62	0.69	0.69	0.72
100	15–16	0.022	0.055	0.088	0.13	0.15	0.19	0.23	0.29	0.3	0.35	0.38	0.47	0.48	0.54	0.64	0.68	0.74	0.75	0.81	0.96
deg)	14–15	0.026	0.057	0.092	0.13	0.15	0.19	0.23	0.29	0.34	0.42	0.52	0.53	0.61	0.65	0.74	0.76	0.85	0.9	0.92	0.98
-	13–14	0.03	0.067	0.1	0.14	0.18	0.24	0.26	0.34	0.41	0.51	0.59	0.6	0.69	0.76	0.94	0.94	0.96	1.0	1.0	1.0
angle	12–13	0.034	0.08	0.13	0.19	0.24	0.31	0.38	0.45	0.54	0.6	0.7	0.8	0.87	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	11–12	0.042	0.085	0.14	0.2	0.26	0.35	0.44	0.49	0.63	0.74	0.81	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.049	0.11	0.18	0.27	0.34	0.43	0.51	0.63	0.85	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.06	0.13	0.22	0.31	0.41	0.55	0.62	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l g	8–9	0.074	0.17	0.32	0.39	0.53	0.65	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.096	0.21	0.35	0.52	0.65	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<u>:</u>	6–7	0.13	0.29	0.46	0.61	0.78	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ta)	5–6	0.16	0.35	0.55	0.76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.2	0.47	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.44	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 10. [5 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 7).

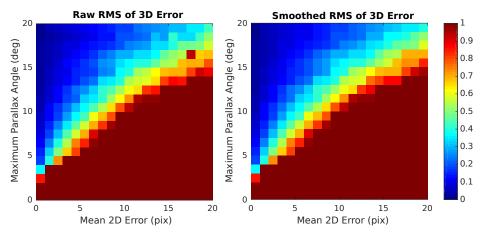


Figure 8. [6 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mea	1 2D erro	or (pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17-18	18–19	19–20
	19–20	0.015	0.034	0.055	0.072	0.087	0.1	0.12	0.13	0.15	0.17	0.18	0.22	0.23	0.26	0.28	0.3	0.31	0.36	0.35	0.44
	18–19	0.014	0.029	0.046	0.061	0.077	0.093	0.1	0.14	0.14	0.19	0.2	0.21	0.22	0.31	0.27	0.42	0.34	0.34	0.43	0.51
	17–18	0.016	0.034	0.058	0.082	0.094	0.11	0.13	0.14	0.17	0.2	0.24	0.25	0.28	0.34	0.34	0.39	0.48	0.47	0.49	0.57
	16–17	0.016	0.034	0.059	0.082	0.11	0.14	0.16	0.2	0.24	0.28	0.29	0.34	0.34	0.37	0.47	0.51	0.55	0.92	0.66	0.68
	15–16	0.017	0.041	0.071	0.11	0.14	0.17	0.2	0.26	0.27	0.33	0.37	0.4	0.4	0.46	0.53	0.53	0.68	0.69	0.69	0.79
(deg)	14–15	0.024	0.049	0.078	0.11	0.15	0.17	0.19	0.24	0.26	0.37	0.4	0.53	0.56	0.61	0.67	0.69	0.7	0.8	0.92	0.88
e (e	13-14	0.027	0.059	0.092	0.12	0.16	0.2	0.23	0.33	0.36	0.4	0.54	0.57	0.58	0.65	0.81	0.87	0.86	1.0	1.0	1.0
angle	12-13	0.028	0.066	0.11	0.17	0.23	0.26	0.31	0.41	0.44	0.52	0.61	0.65	0.83	0.85	1.0	1.0	1.0	1.0	1.0	1.0
B	11-12	0.036	0.077	0.12	0.17	0.22	0.31	0.35	0.42	0.52	0.62	0.72	0.94	0.97	0.97	1.0	1.0	1.0	1.0	1.0	1.0
lla)	10-11	0.041	0.12	0.17	0.23	0.3	0.36	0.44	0.54	0.65	0.79	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
paralla	9–10	0.054	0.11	0.18	0.27	0.36	0.44	0.6	0.68	0.79	0.99	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.065	0.15	0.24	0.34	0.46	0.56	0.7	0.83	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l II	7–8	0.086	0.18	0.31	0.44	0.58	0.69	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<u>.E</u>	6–7	0.11	0.25	0.4	0.54	0.74	0.83	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.15	0.31	0.49	0.66	0.81	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	4–5	0.18	0.4	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.37	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 11. [6 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 8).

											Mea	1 2D erro	or (pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18-19	19–20
	19–20	0.015	0.031	0.05	0.066	0.081	0.098	0.11	0.13	0.14	0.17	0.18	0.22	0.23	0.25	0.28	0.3	0.32	0.35	0.35	0.4
	18–19	0.015	0.031	0.05	0.066	0.081	0.098	0.11	0.13	0.14	0.19	0.2	0.22	0.23	0.29	0.29	0.37	0.37	0.4	0.45	0.51
	17–18	0.016	0.034	0.058	0.082	0.094	0.11	0.13	0.14	0.17	0.2	0.24	0.25	0.29	0.34	0.35	0.4	0.47	0.47	0.49	0.59
	16–17	0.016	0.034	0.059	0.082	0.11	0.14	0.16	0.2	0.24	0.28	0.29	0.34	0.34	0.37	0.47	0.52	0.55	0.69	0.69	0.7
(a)	15–16	0.017	0.041	0.071	0.11	0.14	0.17	0.19	0.25	0.27	0.33	0.37	0.4	0.4	0.46	0.53	0.58	0.68	0.73	0.73	0.83
(deg)	14–15	0.024	0.049	0.078	0.11	0.15	0.17	0.19	0.25	0.27	0.37	0.4	0.53	0.56	0.61	0.67	0.69	0.7	0.8	0.91	0.97
e (	13–14	0.027	0.059	0.092	0.12	0.16	0.2	0.23	0.33	0.36	0.4	0.54	0.57	0.59	0.76	0.81	0.86	0.86	1.0	1.0	1.0
angle	12–13	0.028	0.066	0.11	0.17	0.22	0.26	0.31	0.41	0.44	0.52	0.61	0.65	0.83	0.89	1.0	1.0	1.0	1.0	1.0	1.0
	11–12	0.036	0.077	0.12	0.17	0.22	0.31	0.35	0.42	0.52	0.62	0.72	0.94	0.97	0.98	1.0	1.0	1.0	1.0	1.0	1.0
Maximum parallax	10-11	0.041	0.11	0.17	0.23	0.3	0.36	0.44	0.54	0.65	0.79	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.054	0.11	0.18	0.27	0.36	0.44	0.6	0.68	0.79	0.99	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l p	8–9	0.065	0.15	0.24	0.34	0.46	0.56	0.7	0.83	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1 5	7–8	0.086	0.18	0.31	0.44	0.58	0.69	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ij	6–7	0.11	0.25	0.4	0.54	0.74	0.83	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ла	5–6	0.15	0.31	0.49	0.66	0.81	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.18	0.4	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.37	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 12. [6 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 8).

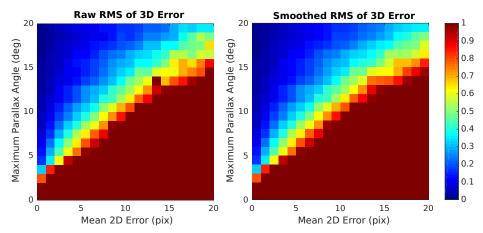


Figure 9. [7 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean	2D erro	r (pix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.013	0.028	0.05	0.069	0.083	0.095	0.11	0.13	0.13	0.16	0.17	0.18	0.22	0.22	0.23	0.28	0.34	0.32	0.35	0.36
	18–19	0.014	0.028	0.042	0.057	0.074	0.086	0.099	0.11	0.13	0.17	0.17	0.19	0.24	0.24	0.28	0.28	0.39	0.46	0.54	0.49
	17–18	0.015	0.03	0.051	0.072	0.087	0.11	0.13	0.15	0.16	0.2	0.21	0.24	0.31	0.31	0.37	0.37	0.44	0.47	0.49	0.65
	16–17	0.015	0.033	0.052	0.073	0.11	0.12	0.16	0.19	0.23	0.24	0.29	0.31	0.34	0.38	0.41	0.54	0.54	0.49	0.57	0.56
10	15–16	0.016	0.034	0.057	0.097	0.13	0.16	0.18	0.21	0.26	0.29	0.31	0.37	0.36	0.42	0.49	0.63	0.69	0.65	0.74	0.87
deg)	14–15	0.021	0.046	0.07	0.098	0.12	0.15	0.18	0.22	0.28	0.32	0.35	0.48	0.47	0.59	0.61	0.6	0.7	0.73	0.79	1.0
-	13–14	0.024	0.052	0.079	0.11	0.14	0.17	0.21	0.26	0.3	0.37	0.47	0.53	0.6	1.0	0.68	0.79	0.85	0.96	1.0	1.0
angle	12–13	0.024	0.061	0.1	0.15	0.2	0.26	0.29	0.32	0.41	0.46	0.53	0.62	0.73	0.92	0.98	1.0	1.0	1.0	1.0	1.0
	11–12	0.036	0.071	0.11	0.15	0.2	0.25	0.3	0.39	0.43	0.53	0.64	0.78	0.87	0.99	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.037	0.086	0.15	0.21	0.27	0.32	0.38	0.51	0.58	0.69	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.048	0.1	0.17	0.25	0.32	0.39	0.5	0.61	0.72	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.06	0.13	0.22	0.33	0.4	0.53	0.6	0.73	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.078	0.17	0.28	0.4	0.54	0.63	0.78	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.8	6–7	0.11	0.23	0.37	0.5	0.63	0.79	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tay	5–6	0.14	0.29	0.44	0.6	0.76	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.16	0.35	0.61	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.31	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 13. [7 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 9).

											Mea	n 2D err	or (pix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9-10	10-11	11–12	12-13	13-14	14–15	15-16	16–17	17-18	18-19	19-20
	19-20	0.013	0.028	0.046	0.062	0.078	0.09	0.1	0.12	0.13	0.16	0.17	0.18	0.22	0.22	0.24	0.28	0.32	0.34	0.35	0.36
	18–19	0.014	0.028	0.046	0.062	0.078	0.09	0.1	0.12	0.13	0.17	0.17	0.19	0.23	0.24	0.28	0.31	0.37	0.4	0.45	0.5
	17–18	0.015	0.03	0.051	0.072	0.087	0.11	0.13	0.14	0.16	0.2	0.21	0.25	0.29	0.32	0.35	0.37	0.44	0.47	0.49	0.59
	16–17	0.015	0.033	0.052	0.073	0.11	0.12	0.16	0.19	0.23	0.24	0.29	0.31	0.34	0.37	0.41	0.52	0.52	0.52	0.57	0.63
	15–16	0.016	0.034	0.059	0.097	0.12	0.15	0.18	0.21	0.26	0.29	0.31	0.37	0.4	0.42	0.49	0.58	0.67	0.67	0.73	0.83
deg)	14–15	0.021	0.046	0.07	0.098	0.12	0.15	0.18	0.22	0.27	0.32	0.35	0.47	0.47	0.59	0.61	0.61	0.7	0.8	0.88	0.97
-	13–14	0.024	0.052	0.079	0.11	0.14	0.17	0.21	0.26	0.31	0.37	0.47	0.53	0.59	0.76	0.78	0.79	0.85	0.97	1.0	1.0
angle	12–13	0.024	0.061	0.1	0.15	0.2	0.25	0.29	0.32	0.41	0.46	0.53	0.62	0.73	0.89	0.98	1.0	1.0	1.0	1.0	1.0
	11–12	0.036	0.071	0.11	0.15	0.2	0.25	0.3	0.39	0.43	0.53	0.64	0.78	0.87	0.98	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.037	0.086	0.15	0.21	0.27	0.32	0.38	0.51	0.58	0.69	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.048	0.1	0.17	0.25	0.32	0.39	0.5	0.61	0.72	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l g	8–9	0.06	0.13	0.22	0.33	0.4	0.53	0.6	0.73	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.078	0.17	0.28	0.4	0.54	0.63	0.78	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.8	6–7	0.11	0.23	0.37	0.5	0.63	0.79	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tay	5–6	0.14	0.29	0.44	0.6	0.76	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.16	0.35	0.61	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.31	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 14. [7 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 9).

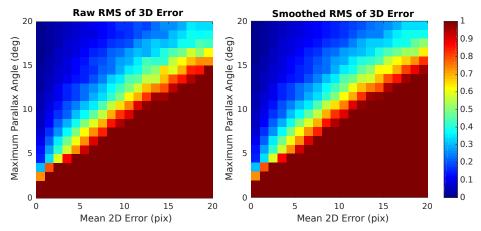


Figure 10. [8 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean	2D erro	r (pix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.012	0.028	0.045	0.062	0.074	0.085	0.099	0.11	0.13	0.17	0.16	0.19	0.18	0.22	0.26	0.26	0.29	0.35	0.34	0.33
	18–19	0.013	0.026	0.04	0.054	0.065	0.078	0.093	0.11	0.13	0.14	0.16	0.19	0.22	0.25	0.24	0.3	0.34	0.38	0.37	0.38
	17–18	0.013	0.029	0.046	0.066	0.082	0.097	0.11	0.13	0.16	0.18	0.2	0.25	0.29	0.33	0.31	0.32	0.38	0.38	0.45	0.44
	16–17	0.014	0.029	0.049	0.066	0.094	0.12	0.14	0.17	0.21	0.23	0.28	0.3	0.29	0.34	0.4	0.45	0.47	0.56	0.5	0.62
	15–16	0.015	0.032	0.06	0.089	0.12	0.14	0.17	0.2	0.23	0.27	0.29	0.36	0.44	0.41	0.41	0.56	0.62	0.67	0.73	0.73
(deg)	14–15	0.02	0.041	0.066	0.091	0.12	0.14	0.17	0.21	0.23	0.29	0.36	0.38	0.46	0.5	0.64	0.59	0.7	0.84	0.86	1.0
(e)	13–14	0.023	0.048	0.074	0.11	0.14	0.15	0.2	0.24	0.32	0.34	0.44	0.46	0.56	0.56	0.68	0.79	0.85	0.95	1.0	1.0
angle	12–13	0.023	0.055	0.094	0.14	0.18	0.23	0.26	0.3	0.36	0.44	0.5	0.57	0.67	0.74	0.79	0.93	1.0	1.0	1.0	1.0
	11–12	0.033	0.068	0.1	0.14	0.19	0.23	0.29	0.34	0.41	0.5	0.62	0.69	0.82	0.96	0.96	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.035	0.082	0.14	0.19	0.24	0.3	0.36	0.45	0.56	0.64	0.74	0.89	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0
I.a.	9–10	0.047	0.097	0.16	0.22	0.3	0.37	0.45	0.56	0.69	0.82	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.055	0.12	0.21	0.28	0.38	0.49	0.58	0.7	0.85	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.073	0.16	0.26	0.36	0.5	0.61	0.73	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.097	0.21	0.35	0.47	0.6	0.72	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
lã	5–6	0.13	0.27	0.42	0.58	0.72	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.15	0.34	0.59	0.87	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.3	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.72	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 15. [8 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 10).

											Mean	2D erro	r (pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11-12	12–13	13–14	14–15	15–16	16–17	17–18	18–19	19-20
	19–20	0.012	0.027	0.042	0.058	0.07	0.081	0.096	0.11	0.13	0.15	0.16	0.18	0.19	0.22	0.24	0.26	0.29	0.34	0.34	0.34
	18–19	0.013	0.027	0.042	0.058	0.07	0.081	0.096	0.11	0.13	0.15	0.16	0.19	0.22	0.24	0.25	0.31	0.35	0.38	0.39	0.39
	17–18	0.013	0.029	0.047	0.066	0.082	0.099	0.11	0.13	0.16	0.18	0.2	0.25	0.29	0.32	0.32	0.33	0.39	0.39	0.47	0.5
	16–17	0.014	0.029	0.049	0.066	0.094	0.12	0.14	0.17	0.21	0.23	0.28	0.3	0.3	0.34	0.4	0.45	0.47	0.52	0.52	0.63
100	15–16	0.015	0.032	0.059	0.089	0.12	0.14	0.17	0.2	0.23	0.27	0.29	0.36	0.4	0.42	0.44	0.56	0.62	0.67	0.73	0.82
deg)	14–15	0.02	0.041	0.066	0.091	0.12	0.14	0.17	0.21	0.23	0.29	0.35	0.38	0.46	0.5	0.61	0.61	0.7	0.8	0.88	0.97
100	13–14	0.023	0.048	0.074	0.11	0.14	0.15	0.2	0.24	0.31	0.34	0.44	0.48	0.56	0.57	0.68	0.79	0.85	0.97	1.0	1.0
angle	12–13	0.023	0.055	0.094	0.14	0.18	0.23	0.26	0.3	0.36	0.44	0.5	0.6	0.67	0.74	0.79	0.94	1.0	1.0	1.0	1.0
	11–12	0.033	0.068	0.1	0.14	0.19	0.23	0.29	0.34	0.41	0.5	0.62	0.69	0.82	0.96	0.98	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.035	0.082	0.14	0.19	0.24	0.3	0.36	0.45	0.56	0.64	0.74	0.89	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.047	0.097	0.16	0.22	0.3	0.37	0.45	0.56	0.69	0.82	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.055	0.12	0.21	0.28	0.38	0.49	0.58	0.7	0.85	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.073	0.16	0.26	0.36	0.5	0.61	0.73	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.097	0.21	0.35	0.47	0.6	0.72	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
lĝ.	5–6	0.13	0.27	0.42	0.58	0.72	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.15	0.34	0.59	0.87	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.3	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.72	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 16. [8 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 10).

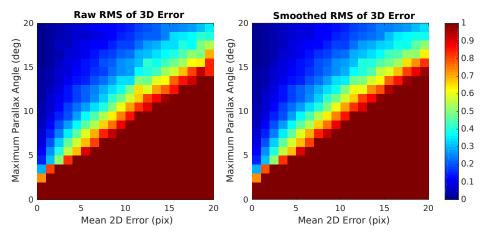


Figure 11. [9 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean	2D erro	r (pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15–16	16–17	17-18	18–19	19–20
	19–20	0.011	0.027	0.041	0.059	0.074	0.086	0.095	0.11	0.12	0.14	0.15	0.17	0.2	0.21	0.25	0.25	0.25	0.28	0.3	0.35
	18–19	0.012	0.025	0.039	0.053	0.063	0.074	0.09	0.11	0.12	0.14	0.16	0.19	0.22	0.22	0.25	0.34	0.35	0.37	0.41	0.39
	17–18	0.013	0.027	0.047	0.06	0.08	0.1	0.11	0.12	0.15	0.18	0.18	0.23	0.27	0.29	0.34	0.33	0.4	0.37	0.49	0.54
	16–17	0.013	0.029	0.045	0.067	0.086	0.11	0.13	0.16	0.18	0.21	0.23	0.29	0.31	0.33	0.37	0.4	0.45	0.5	0.49	0.7
	15–16	0.014	0.029	0.056	0.079	0.11	0.13	0.16	0.19	0.22	0.25	0.27	0.31	0.41	0.38	0.43	0.48	0.52	0.61	0.64	0.83
(deg)	14–15	0.019	0.04	0.063	0.09	0.11	0.13	0.16	0.19	0.23	0.25	0.27	0.37	0.4	0.43	0.52	0.56	0.67	0.8	0.92	0.84
1 0)	13–14	0.022	0.046	0.073	0.097	0.13	0.15	0.2	0.23	0.27	0.34	0.33	0.5	0.48	0.59	0.62	0.77	0.86	0.91	1.0	1.0
angl	12–13	0.022	0.049	0.088	0.13	0.17	0.2	0.24	0.29	0.34	0.38	0.49	0.65	0.58	0.7	0.77	0.85	1.0	1.0	1.0	1.0
	11–12	0.031	0.063	0.098	0.14	0.17	0.22	0.26	0.31	0.41	0.48	0.57	0.67	0.8	0.87	0.96	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.033	0.073	0.12	0.17	0.23	0.28	0.34	0.4	0.49	0.6	0.72	0.82	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l'ar	9–10	0.044	0.092	0.14	0.2	0.27	0.36	0.44	0.54	0.63	0.75	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.052	0.12	0.19	0.28	0.37	0.46	0.54	0.67	0.76	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
=	7–8	0.071	0.15	0.24	0.36	0.46	0.58	0.69	0.83	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	6–7	0.092	0.2	0.32	0.45	0.57	0.68	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
(a)	5–6	0.12	0.25	0.39	0.55	0.68	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.14	0.31	0.51	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.29	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.72	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 17. [9 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 11).

											Mean	2D erro	r (pix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	19–20	0.011	0.026	0.04	0.056	0.068	0.08	0.092	0.11	0.12	0.14	0.15	0.17	0.19	0.21	0.24	0.25	0.26	0.28	0.3	0.34
	18–19	0.012	0.026	0.04	0.056	0.068	0.08	0.092	0.11	0.12	0.14	0.16	0.19	0.22	0.22	0.25	0.31	0.35	0.37	0.39	0.39
	17–18	0.013	0.027	0.046	0.06	0.08	0.099	0.11	0.12	0.15	0.18	0.18	0.23	0.27	0.29	0.32	0.33	0.39	0.39	0.47	0.5
	16–17	0.013	0.029	0.046	0.066	0.086	0.11	0.13	0.16	0.18	0.21	0.23	0.29	0.3	0.33	0.37	0.42	0.45	0.5	0.51	0.63
	15–16	0.014	0.029	0.056	0.079	0.11	0.13	0.16	0.19	0.22	0.25	0.27	0.31	0.39	0.39	0.44	0.48	0.52	0.65	0.72	0.82
e (deg)	14–15	0.019	0.04	0.063	0.09	0.11	0.13	0.16	0.19	0.23	0.26	0.28	0.37	0.4	0.44	0.55	0.58	0.67	0.81	0.88	0.97
100	13-14	0.022	0.046	0.073	0.097	0.13	0.15	0.2	0.23	0.27	0.34	0.34	0.48	0.49	0.57	0.62	0.77	0.85	0.97	1.0	1.0
angl	12-13	0.022	0.049	0.088	0.13	0.17	0.2	0.24	0.29	0.34	0.38	0.49	0.6	0.6	0.72	0.79	0.94	1.0	1.0	1.0	1.0
	11–12	0.031	0.063	0.098	0.14	0.17	0.22	0.26	0.31	0.41	0.48	0.57	0.67	0.8	0.87	0.98	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.033	0.073	0.12	0.17	0.23	0.28	0.34	0.4	0.49	0.6	0.72	0.82	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
123	9–10	0.044	0.092	0.14	0.2	0.27	0.36	0.44	0.54	0.63	0.75	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.052	0.12	0.19	0.28	0.37	0.46	0.54	0.67	0.76	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.071	0.15	0.24	0.36	0.46	0.58	0.69	0.83	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.092	0.2	0.32	0.45	0.57	0.68	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
[ax	5–6	0.12	0.25	0.39	0.55	0.68	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	4–5	0.14	0.31	0.51	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.29	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.72	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 18. [9 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 11).

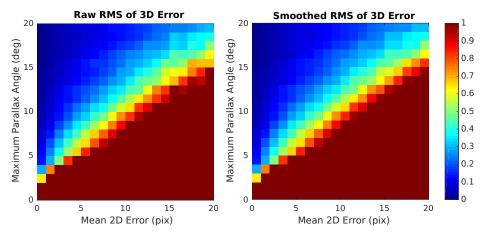


Figure 12. [10 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean	2D erro	r (pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12–13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.01	0.025	0.043	0.055	0.067	0.084	0.091	0.1	0.13	0.13	0.15	0.17	0.19	0.21	0.23	0.25	0.25	0.26	0.29	0.3
	18–19	0.012	0.024	0.038	0.049	0.059	0.077	0.087	0.1	0.12	0.13	0.15	0.17	0.2	0.22	0.24	0.32	0.3	0.35	0.37	0.38
	17–18	0.012	0.026	0.043	0.059	0.075	0.092	0.1	0.12	0.14	0.16	0.18	0.21	0.26	0.26	0.27	0.33	0.32	0.41	0.37	0.51
	16–17	0.012	0.027	0.044	0.061	0.077	0.099	0.11	0.15	0.18	0.22	0.24	0.25	0.3	0.31	0.34	0.45	0.43	0.44	0.51	0.6
	15–16	0.013	0.029	0.051	0.078	0.1	0.13	0.16	0.17	0.2	0.23	0.27	0.29	0.33	0.36	0.48	0.46	0.51	0.69	0.68	0.68
(deg)	14–15	0.018	0.039	0.061	0.084	0.11	0.13	0.14	0.18	0.22	0.27	0.3	0.35	0.4	0.46	0.58	0.6	0.64	0.74	0.84	1.0
(e)	13–14	0.021	0.044	0.068	0.094	0.12	0.15	0.18	0.21	0.25	0.29	0.35	0.44	0.48	0.51	0.62	0.67	0.82	0.96	0.92	1.0
angle	12–13	0.021	0.048	0.083	0.13	0.17	0.19	0.23	0.27	0.31	0.35	0.45	0.47	0.6	0.74	0.81	1.0	0.95	1.0	1.0	1.0
	11–12	0.03	0.059	0.095	0.13	0.16	0.22	0.25	0.31	0.37	0.44	0.54	0.63	0.73	0.83	0.92	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.032	0.068	0.12	0.17	0.22	0.27	0.33	0.38	0.48	0.57	0.65	0.82	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.043	0.086	0.14	0.2	0.27	0.32	0.41	0.48	0.6	0.73	0.82	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.05	0.11	0.18	0.26	0.35	0.43	0.52	0.62	0.74	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
#	7–8	0.066	0.14	0.24	0.33	0.43	0.55	0.66	0.78	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
.E	6–7	0.089	0.19	0.31	0.43	0.56	0.65	0.78	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.12	0.24	0.38	0.52	0.67	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.14	0.29	0.49	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.29	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 19. [10 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 12).

											Mean	2D erro	r (pix)								
		0-1	1-2	2-3	3–4	4–5	5-6	6–7	7–8	8–9	9-10	10-11	11–12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	19-20	0.011	0.024	0.04	0.052	0.063	0.08	0.088	0.1	0.12	0.13	0.15	0.17	0.19	0.21	0.23	0.25	0.26	0.26	0.3	0.31
	18–19	0.012	0.024	0.04	0.052	0.063	0.08	0.088	0.1	0.12	0.13	0.15	0.17	0.2	0.22	0.24	0.31	0.31	0.35	0.37	0.39
	17–18	0.012	0.026	0.043	0.059	0.075	0.092	0.1	0.12	0.14	0.16	0.18	0.21	0.26	0.26	0.27	0.33	0.33	0.39	0.39	0.5
	16–17	0.012	0.027	0.044	0.061	0.077	0.099	0.11	0.15	0.18	0.21	0.23	0.25	0.3	0.31	0.34	0.42	0.44	0.44	0.52	0.62
	15–16	0.013	0.029	0.051	0.078	0.1	0.13	0.15	0.17	0.2	0.23	0.27	0.29	0.33	0.36	0.44	0.46	0.52	0.65	0.73	0.83
(deg)	14–15	0.018	0.039	0.061	0.084	0.11	0.13	0.15	0.18	0.22	0.26	0.28	0.35	0.4	0.44	0.55	0.58	0.67	0.81	0.88	0.97
(e)	13–14	0.021	0.044	0.068	0.094	0.12	0.15	0.18	0.21	0.25	0.29	0.34	0.44	0.48	0.51	0.62	0.71	0.83	0.97	0.99	1.0
angle	12–13	0.021	0.048	0.083	0.13	0.16	0.19	0.23	0.27	0.31	0.35	0.45	0.47	0.6	0.72	0.79	0.94	0.99	1.0	1.0	1.0
	11–12	0.03	0.059	0.095	0.13	0.16	0.22	0.25	0.31	0.37	0.44	0.54	0.63	0.73	0.86	0.98	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.032	0.068	0.12	0.17	0.22	0.27	0.33	0.38	0.48	0.57	0.65	0.82	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.043	0.086	0.14	0.2	0.27	0.32	0.41	0.48	0.6	0.73	0.84	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l g	8–9	0.05	0.11	0.18	0.26	0.35	0.43	0.52	0.62	0.74	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.066	0.14	0.24	0.33	0.43	0.55	0.66	0.78	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
.∄	6–7	0.089	0.19	0.31	0.43	0.56	0.65	0.78	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ta)	5–6	0.12	0.24	0.38	0.52	0.67	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.14	0.29	0.49	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.29	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 20. [10 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 12).

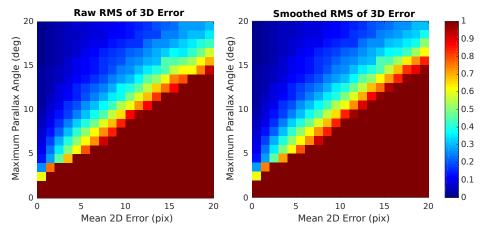


Figure 13. [12 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean	2D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12–13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.011	0.022	0.039	0.05	0.063	0.077	0.087	0.097	0.1	0.12	0.13	0.15	0.17	0.19	0.2	0.23	0.27	0.27	0.27	0.31
	18–19	0.011	0.022	0.034	0.048	0.06	0.071	0.079	0.09	0.11	0.12	0.14	0.17	0.17	0.18	0.23	0.25	0.27	0.3	0.31	0.36
	17–18	0.011	0.024	0.039	0.055	0.07	0.081	0.099	0.11	0.13	0.15	0.17	0.17	0.22	0.26	0.26	0.29	0.32	0.35	0.39	0.43
	16-17	0.011	0.024	0.041	0.058	0.069	0.094	0.11	0.14	0.16	0.19	0.22	0.22	0.26	0.28	0.31	0.36	0.36	0.42	0.47	0.58
	15–16	0.013	0.026	0.043	0.067	0.094	0.12	0.13	0.16	0.18	0.2	0.24	0.25	0.29	0.31	0.44	0.45	0.48	0.53	0.62	0.7
(deg)	14–15	0.017	0.035	0.059	0.078	0.098	0.12	0.14	0.17	0.19	0.24	0.26	0.31	0.34	0.41	0.45	0.55	0.62	0.61	0.74	0.93
(e)	13–14	0.019	0.04	0.062	0.085	0.11	0.14	0.16	0.2	0.24	0.27	0.31	0.37	0.46	0.51	0.6	0.73	0.78	0.99	1.0	1.0
angle	12-13	0.02	0.042	0.078	0.11	0.15	0.18	0.21	0.25	0.29	0.36	0.39	0.47	0.56	0.67	0.75	0.87	0.99	1.0	1.0	1.0
	11–12	0.027	0.056	0.09	0.12	0.15	0.19	0.24	0.28	0.35	0.39	0.5	0.58	0.69	0.83	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.028	0.065	0.11	0.16	0.2	0.25	0.31	0.36	0.43	0.54	0.61	0.73	0.87	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.038	0.079	0.13	0.19	0.24	0.3	0.38	0.45	0.55	0.65	0.86	0.98	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.047	0.1	0.17	0.24	0.32	0.4	0.48	0.59	0.67	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
=	7–8	0.063	0.13	0.22	0.31	0.41	0.51	0.62	0.73	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.8	6–7	0.083	0.17	0.29	0.4	0.51	0.62	0.73	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.11	0.22	0.36	0.49	0.62	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.13	0.27	0.47	0.69	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.26	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 21. [12 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 13).

											Mean	2D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15-16	16–17	17–18	18-19	19–20
	19–20	0.011	0.022	0.036	0.049	0.061	0.074	0.083	0.093	0.1	0.12	0.13	0.15	0.17	0.19	0.21	0.23	0.26	0.26	0.3	0.31
	18 - 19	0.011	0.022	0.036	0.049	0.061	0.074	0.083	0.093	0.11	0.12	0.14	0.17	0.18	0.19	0.23	0.25	0.28	0.3	0.32	0.39
	17 - 18	0.011	0.024	0.039	0.055	0.07	0.081	0.099	0.11	0.13	0.15	0.17	0.17	0.22	0.26	0.26	0.3	0.32	0.35	0.39	0.51
	16–17	0.011	0.024	0.041	0.058	0.07	0.094	0.11	0.14	0.16	0.19	0.22	0.22	0.26	0.28	0.31	0.36	0.39	0.43	0.52	0.62
	15–16	0.013	0.026	0.043	0.067	0.094	0.12	0.13	0.16	0.18	0.21	0.24	0.25	0.29	0.31	0.44	0.45	0.52	0.63	0.73	0.83
angle (deg)	14–15	0.017	0.035	0.059	0.078	0.098	0.12	0.14	0.17	0.19	0.24	0.26	0.31	0.34	0.41	0.45	0.55	0.67	0.81	0.89	0.97
e (	13-14	0.019	0.04	0.062	0.085	0.11	0.14	0.16	0.2	0.24	0.27	0.31	0.37	0.46	0.51	0.61	0.71	0.83	0.97	0.99	1.0
lgu	12-13	0.02	0.042	0.078	0.11	0.15	0.18	0.21	0.25	0.29	0.35	0.39	0.47	0.56	0.68	0.75	0.95	0.99	1.0	1.0	1.0
	11-12	0.027	0.056	0.09	0.12	0.15	0.19	0.24	0.28	0.35	0.4	0.5	0.58	0.69	0.86	0.98	1.0	1.0	1.0	1.0	1.0
Maximum parallax	10-11	0.028	0.065	0.11	0.16	0.2	0.25	0.31	0.36	0.43	0.54	0.61	0.73	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.038	0.079	0.13	0.19	0.24	0.3	0.38	0.45	0.55	0.65	0.84	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l d	8–9	0.047	0.1	0.17	0.24	0.32	0.4	0.48	0.59	0.67	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
=	7–8	0.063	0.13	0.22	0.31	0.41	0.51	0.62	0.73	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Į.ij	6–7	0.083	0.17	0.29	0.4	0.51	0.62	0.73	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
√a2	5–6	0.11	0.22	0.36	0.49	0.62	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.13	0.27	0.47	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.27	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 22. [12 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 13).

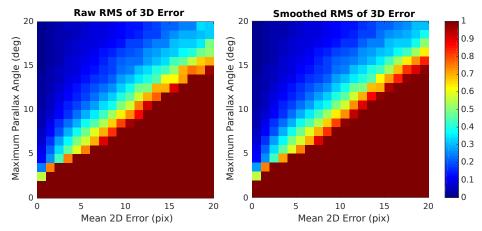


Figure 14. [14 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error	(pix)								
		0-1	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0079	0.021	0.035	0.048	0.062	0.069	0.082	0.085	0.099	0.11	0.14	0.14	0.16	0.18	0.21	0.21	0.25	0.24	0.34	0.31
	18–19	0.01	0.02	0.032	0.044	0.056	0.067	0.081	0.089	0.098	0.11	0.13	0.15	0.18	0.18	0.23	0.26	0.28	0.28	0.31	0.33
	17–18	0.011	0.022	0.036	0.05	0.067	0.079	0.093	0.1	0.12	0.13	0.18	0.17	0.2	0.25	0.24	0.31	0.32	0.32	0.36	0.49
	16–17	0.011	0.024	0.037	0.054	0.067	0.088	0.1	0.13	0.14	0.17	0.2	0.21	0.26	0.27	0.31	0.32	0.36	0.4	0.48	0.51
	15–16	0.012	0.024	0.04	0.066	0.087	0.1	0.12	0.14	0.17	0.21	0.22	0.23	0.27	0.31	0.34	0.43	0.46	0.55	0.67	0.69
(deg)	14–15	0.015	0.033	0.052	0.072	0.093	0.11	0.14	0.16	0.17	0.22	0.25	0.3	0.33	0.39	0.42	0.51	0.7	0.75	0.73	0.97
(e)	13–14	0.018	0.038	0.06	0.08	0.11	0.13	0.16	0.19	0.2	0.27	0.31	0.36	0.4	0.45	0.6	0.61	0.71	1.0	1.0	1.0
angle	12–13	0.019	0.039	0.07	0.1	0.14	0.16	0.2	0.23	0.26	0.31	0.38	0.48	0.5	0.69	0.69	0.9	1.0	1.0	1.0	1.0
	11–12	0.025	0.052	0.083	0.11	0.14	0.18	0.23	0.27	0.32	0.4	0.46	0.57	0.69	0.77	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.027	0.062	0.1	0.15	0.19	0.23	0.28	0.33	0.38	0.5	0.57	0.73	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.036	0.074	0.12	0.17	0.22	0.29	0.35	0.43	0.52	0.64	0.73	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.045	0.094	0.16	0.22	0.3	0.38	0.45	0.54	0.67	0.81	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
=	7–8	0.058	0.12	0.2	0.29	0.38	0.48	0.58	0.69	0.81	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.8	6–7	0.078	0.16	0.27	0.37	0.49	0.57	0.7	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.1	0.21	0.33	0.46	0.59	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.12	0.25	0.43	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.25	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.56	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 23. [14 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 14).

											Mean 2	D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0079	0.021	0.033	0.045	0.059	0.068	0.081	0.086	0.099	0.12	0.13	0.14	0.16	0.18	0.21	0.21	0.25	0.26	0.3	0.31
	18–19	0.01	0.021	0.033	0.045	0.059	0.068	0.081	0.089	0.099	0.12	0.13	0.15	0.18	0.18	0.23	0.25	0.28	0.29	0.32	0.39
	17–18	0.011	0.022	0.036	0.05	0.067	0.079	0.093	0.1	0.12	0.13	0.17	0.17	0.2	0.25	0.25	0.3	0.32	0.33	0.38	0.51
	16–17	0.011	0.024	0.037	0.054	0.067	0.088	0.1	0.13	0.14	0.17	0.2	0.21	0.26	0.27	0.31	0.32	0.39	0.43	0.52	0.63
	15–16	0.012	0.024	0.04	0.066	0.087	0.1	0.12	0.14	0.17	0.21	0.22	0.24	0.27	0.31	0.35	0.43	0.52	0.63	0.73	0.84
angle (deg)	14–15	0.015	0.033	0.052	0.072	0.093	0.11	0.14	0.16	0.18	0.22	0.25	0.3	0.33	0.39	0.43	0.53	0.68	0.82	0.9	0.97
100	13-14	0.018	0.038	0.06	0.08	0.11	0.13	0.16	0.19	0.21	0.27	0.31	0.36	0.4	0.45	0.61	0.71	0.84	0.97	0.99	1.0
1 20	12-13	0.019	0.039	0.07	0.1	0.14	0.16	0.2	0.23	0.26	0.31	0.38	0.47	0.5	0.68	0.7	0.95	0.99	1.0	1.0	1.0
1 1	11-12	0.025	0.052	0.083	0.11	0.14	0.18	0.23	0.27	0.32	0.4	0.46	0.57	0.69	0.86	0.98	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.027	0.062	0.1	0.15	0.19	0.23	0.28	0.33	0.38	0.5	0.57	0.73	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ta	9–10	0.036	0.074	0.12	0.17	0.22	0.29	0.35	0.43	0.52	0.64	0.73	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.045	0.094	0.16	0.22	0.3	0.38	0.45	0.54	0.67	0.81	0.98	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.058	0.12	0.2	0.29	0.38	0.48	0.58	0.69	0.81	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.078	0.16	0.27	0.37	0.49	0.57	0.7	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tax	5–6	0.1	0.21	0.33	0.46	0.59	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	4–5	0.12	0.25	0.43	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.27	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.56	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 24. [14 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 14).

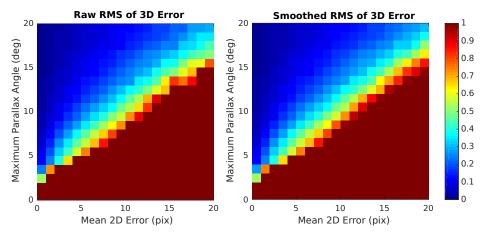


Figure 15. [16 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

										-	Mean 2	D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15-16	16-17	17–18	18–19	19-20
	19–20	0.0072	0.021	0.031	0.044	0.06	0.068	0.079	0.086	0.096	0.12	0.11	0.14	0.15	0.17	0.18	0.21	0.21	0.27	0.27	0.3
	18-19	0.01	0.021	0.032	0.042	0.054	0.065	0.077	0.088	0.1	0.12	0.13	0.14	0.16	0.18	0.2	0.23	0.26	0.3	0.34	0.35
	17–18	0.01	0.022	0.035	0.047	0.062	0.073	0.09	0.099	0.11	0.12	0.15	0.16	0.19	0.21	0.24	0.25	0.31	0.33	0.38	0.44
	16–17	0.011	0.021	0.034	0.051	0.063	0.082	0.1	0.11	0.14	0.16	0.18	0.21	0.24	0.25	0.29	0.32	0.36	0.42	0.46	0.49
	15–16	0.01	0.023	0.037	0.055	0.081	0.096	0.11	0.14	0.15	0.18	0.21	0.25	0.26	0.29	0.36	0.39	0.49	0.59	0.61	0.8
(deg)	14–15	0.015	0.031	0.051	0.067	0.087	0.11	0.12	0.14	0.18	0.21	0.24	0.27	0.31	0.39	0.44	0.49	0.58	0.68	1.0	1.0
1 0	13–14	0.017	0.037	0.056	0.078	0.098	0.13	0.15	0.18	0.21	0.24	0.26	0.35	0.39	0.45	0.64	0.81	0.76	0.86	1.0	1.0
angl	12–13	0.018	0.038	0.066	0.095	0.12	0.15	0.18	0.22	0.26	0.3	0.36	0.41	0.5	0.59	0.68	1.0	1.0	1.0	1.0	1.0
	11–12	0.025	0.051	0.077	0.11	0.14	0.18	0.21	0.26	0.3	0.36	0.46	0.53	0.69	0.9	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.027	0.055	0.097	0.13	0.17	0.22	0.27	0.32	0.37	0.47	0.53	0.65	0.81	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.035	0.071	0.11	0.16	0.21	0.27	0.33	0.4	0.49	0.55	0.73	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.043	0.088	0.15	0.21	0.28	0.35	0.43	0.52	0.62	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
=	7–8	0.055	0.12	0.19	0.27	0.36	0.46	0.55	0.66	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	6–7	0.074	0.15	0.25	0.36	0.46	0.55	0.67	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
√a2	5–6	0.096	0.2	0.32	0.43	0.57	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1~	4–5	0.12	0.24	0.4	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.25	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.53	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 25. [16 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 15).

											Mean 2	D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15-16	16–17	17–18	18–19	19–20
	19–20	0.0079	0.021	0.032	0.043	0.057	0.066	0.078	0.086	0.096	0.12	0.12	0.14	0.15	0.17	0.18	0.21	0.22	0.26	0.27	0.31
	18–19	0.01	0.021	0.032	0.043	0.057	0.066	0.078	0.088	0.099	0.12	0.13	0.14	0.16	0.18	0.2	0.23	0.26	0.29	0.32	0.39
	17–18	0.01	0.022	0.035	0.047	0.062	0.073	0.09	0.099	0.11	0.13	0.15	0.16	0.19	0.21	0.24	0.25	0.31	0.33	0.38	0.52
	16–17	0.011	0.022	0.035	0.051	0.063	0.082	0.1	0.11	0.14	0.16	0.18	0.21	0.24	0.25	0.29	0.32	0.39	0.43	0.52	0.63
	15–16	0.011	0.023	0.038	0.055	0.081	0.097	0.11	0.14	0.15	0.18	0.21	0.24	0.27	0.29	0.35	0.4	0.52	0.63	0.74	0.85
(deg)	14–15	0.015	0.031	0.051	0.067	0.087	0.11	0.12	0.14	0.18	0.21	0.24	0.28	0.31	0.39	0.43	0.53	0.68	0.83	0.9	0.97
(e)	13–14	0.017	0.037	0.056	0.078	0.098	0.13	0.15	0.18	0.21	0.24	0.27	0.35	0.39	0.45	0.61	0.71	0.84	0.97	0.99	1.0
angle	12–13	0.018	0.038	0.066	0.095	0.12	0.15	0.18	0.22	0.26	0.3	0.36	0.41	0.5	0.59	0.7	0.95	0.99	1.0	1.0	1.0
	11–12	0.025	0.051	0.077	0.11	0.14	0.18	0.21	0.26	0.3	0.36	0.46	0.54	0.69	0.86	0.98	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.027	0.055	0.097	0.13	0.17	0.22	0.27	0.32	0.37	0.47	0.54	0.72	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.035	0.071	0.11	0.16	0.21	0.27	0.33	0.4	0.49	0.56	0.73	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.043	0.088	0.15	0.21	0.28	0.35	0.43	0.52	0.62	0.78	0.98	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.055	0.12	0.19	0.27	0.36	0.46	0.55	0.66	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.074	0.15	0.25	0.36	0.46	0.55	0.67	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tax	5–6	0.096	0.2	0.32	0.43	0.57	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.12	0.24	0.4	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.27	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.53	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 26. [16 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 15).

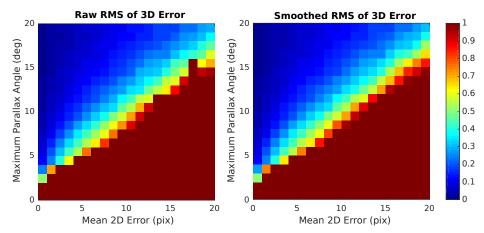


Figure 16. [18 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15-16	16-17	17-18	18-19	19-20
	19–20	0.0072	0.021	0.034	0.042	0.055	0.066	0.074	0.086	0.097	0.11	0.13	0.14	0.14	0.17	0.17	0.18	0.22	0.23	0.28	0.29
	18–19	0.0097	0.019	0.03	0.042	0.054	0.062	0.073	0.084	0.096	0.11	0.12	0.14	0.15	0.18	0.19	0.21	0.25	0.27	0.3	0.36
	17–18	0.0093	0.021	0.034	0.046	0.057	0.072	0.084	0.094	0.11	0.13	0.14	0.16	0.18	0.19	0.23	0.25	0.29	0.32	0.4	0.45
	16–17	0.011	0.02	0.034	0.047	0.063	0.078	0.091	0.11	0.13	0.14	0.17	0.19	0.22	0.24	0.25	0.3	0.37	0.41	0.46	0.59
	15–16	0.011	0.022	0.038	0.056	0.073	0.097	0.11	0.12	0.15	0.17	0.19	0.22	0.27	0.3	0.32	0.42	0.47	1.0	0.61	0.69
(deg)	14–15	0.014	0.031	0.05	0.065	0.082	0.1	0.12	0.14	0.16	0.18	0.22	0.28	0.31	0.33	0.4	0.49	0.58	1.0	0.93	0.97
ده ا	13–14	0.016	0.035	0.053	0.074	0.096	0.11	0.14	0.16	0.19	0.24	0.28	0.32	0.36	0.43	0.56	0.58	0.91	1.0	1.0	1.0
angl	12–13	0.017	0.036	0.062	0.091	0.12	0.14	0.17	0.21	0.24	0.28	0.34	0.36	0.47	0.55	0.64	0.87	1.0	1.0	1.0	1.0
	11–12	0.024	0.047	0.074	0.11	0.13	0.17	0.2	0.24	0.29	0.36	0.42	0.55	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.026	0.055	0.09	0.13	0.17	0.21	0.26	0.31	0.34	0.45	0.55	0.7	0.92	0.99	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.033	0.068	0.11	0.16	0.2	0.26	0.32	0.38	0.49	0.56	0.7	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.04	0.085	0.14	0.2	0.27	0.34	0.41	0.51	0.61	0.72	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.053	0.11	0.18	0.26	0.35	0.42	0.53	0.61	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.071	0.15	0.24	0.33	0.44	0.54	0.63	0.81	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
la la	5–6	0.093	0.19	0.3	0.42	0.54	0.76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1~	4–5	0.11	0.24	0.39	0.62	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.25	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.51	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 27. [18 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 16).

											Mean 2	D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0079	0.02	0.031	0.042	0.054	0.064	0.074	0.085	0.096	0.11	0.12	0.14	0.15	0.17	0.18	0.19	0.22	0.23	0.27	0.31
	18–19	0.0095	0.02	0.031	0.042	0.054	0.064	0.074	0.085	0.096	0.11	0.12	0.14	0.15	0.18	0.19	0.21	0.25	0.29	0.3	0.39
	17–18	0.0095	0.02	0.034	0.046	0.057	0.072	0.084	0.094	0.11	0.13	0.14	0.16	0.18	0.19	0.23	0.25	0.3	0.33	0.38	0.52
	16–17	0.011	0.02	0.034	0.047	0.063	0.078	0.091	0.11	0.13	0.14	0.17	0.19	0.22	0.24	0.25	0.32	0.39	0.43	0.53	0.64
10	15–16	0.011	0.022	0.038	0.055	0.073	0.097	0.11	0.12	0.15	0.17	0.19	0.22	0.27	0.29	0.33	0.4	0.52	0.63	0.75	0.86
(deg)	14–15	0.015	0.031	0.05	0.065	0.082	0.1	0.12	0.14	0.16	0.19	0.22	0.28	0.31	0.33	0.4	0.54	0.69	0.83	0.91	0.98
(e)	13–14	0.016	0.035	0.053	0.074	0.096	0.11	0.14	0.16	0.19	0.24	0.27	0.32	0.36	0.43	0.56	0.69	0.84	0.98	0.99	1.0
angle	12–13	0.017	0.036	0.062	0.091	0.12	0.14	0.17	0.21	0.24	0.28	0.34	0.38	0.47	0.55	0.7	0.95	1.0	1.0	1.0	1.0
	11–12	0.024	0.047	0.074	0.11	0.13	0.17	0.2	0.24	0.29	0.36	0.42	0.54	0.59	0.86	0.98	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.026	0.055	0.09	0.13	0.17	0.21	0.26	0.31	0.34	0.45	0.54	0.72	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	9–10	0.033	0.068	0.11	0.16	0.2	0.26	0.32	0.38	0.49	0.56	0.7	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.04	0.085	0.14	0.2	0.27	0.34	0.41	0.51	0.61	0.78	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.053	0.11	0.18	0.26	0.35	0.42	0.53	0.61	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.071	0.15	0.24	0.33	0.44	0.54	0.63	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
lã	5–6	0.093	0.19	0.3	0.42	0.54	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	4–5	0.11	0.24	0.39	0.63	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.27	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.51	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 28. [18 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 16).

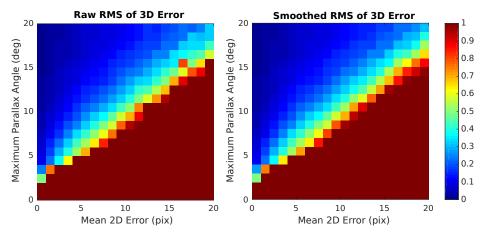


Figure 17. [20 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error	(pix)								
		0-1	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.008	0.019	0.03	0.041	0.052	0.063	0.073	0.082	0.091	0.11	0.12	0.13	0.16	0.15	0.18	0.19	0.23	0.21	0.24	0.32
	18–19	0.009	0.019	0.029	0.039	0.05	0.063	0.071	0.08	0.091	0.1	0.12	0.13	0.16	0.17	0.2	0.2	0.23	0.32	0.3	0.32
	17–18	0.0091	0.019	0.032	0.045	0.057	0.067	0.081	0.093	0.11	0.11	0.14	0.16	0.18	0.19	0.22	0.23	0.32	0.34	0.34	0.44
	16–17	0.0093	0.02	0.032	0.043	0.058	0.075	0.086	0.1	0.12	0.14	0.17	0.18	0.2	0.23	0.24	0.34	0.36	0.41	0.44	0.57
٦٥	15–16	0.01	0.021	0.032	0.052	0.068	0.089	0.11	0.12	0.15	0.17	0.18	0.21	0.24	0.29	0.33	0.35	0.81	0.5	0.65	1.0
(deg)	14–15	0.015	0.029	0.048	0.065	0.082	0.097	0.12	0.13	0.16	0.19	0.22	0.24	0.29	0.34	0.41	0.47	0.59	0.79	0.89	1.0
(e)	13–14	0.016	0.032	0.053	0.068	0.093	0.11	0.14	0.15	0.18	0.23	0.27	0.32	0.34	0.41	0.49	0.69	0.9	1.0	1.0	1.0
angle	12–13	0.017	0.034	0.058	0.087	0.11	0.15	0.17	0.2	0.23	0.28	0.32	0.41	0.44	0.54	0.69	1.0	1.0	1.0	1.0	1.0
	11–12	0.022	0.045	0.071	0.1	0.13	0.16	0.2	0.23	0.27	0.32	0.4	0.5	0.59	0.73	0.95	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.024	0.052	0.085	0.12	0.16	0.2	0.24	0.29	0.34	0.43	0.51	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.032	0.065	0.11	0.15	0.2	0.25	0.31	0.36	0.46	0.57	0.69	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.039	0.08	0.13	0.19	0.25	0.32	0.4	0.49	0.58	0.77	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
\	7–8	0.051	0.11	0.17	0.25	0.33	0.42	0.51	0.61	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
. <u>E</u>	6–7	0.068	0.14	0.23	0.32	0.42	0.53	0.63	0.84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.088	0.18	0.29	0.4	0.53	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.11	0.22	0.36	0.61	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.24	0.76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.49	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 29. [20 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 17).

											Mean 2	D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0079	0.019	0.03	0.04	0.051	0.063	0.072	0.081	0.091	0.11	0.12	0.13	0.15	0.16	0.18	0.19	0.22	0.22	0.25	0.31
	18–19	0.009	0.019	0.03	0.04	0.051	0.063	0.072	0.081	0.091	0.11	0.12	0.13	0.15	0.17	0.19	0.2	0.23	0.29	0.3	0.39
	17–18	0.0091	0.019	0.032	0.044	0.057	0.067	0.081	0.093	0.11	0.12	0.14	0.16	0.18	0.19	0.22	0.23	0.3	0.33	0.39	0.53
	16–17	0.0094	0.02	0.032	0.044	0.058	0.075	0.087	0.1	0.12	0.14	0.17	0.18	0.2	0.23	0.24	0.32	0.39	0.43	0.53	0.65
	15–16	0.01	0.021	0.032	0.052	0.068	0.089	0.11	0.12	0.15	0.17	0.19	0.21	0.25	0.29	0.33	0.37	0.52	0.61	0.76	0.87
(deg)	14–15	0.015	0.029	0.048	0.065	0.082	0.098	0.12	0.14	0.16	0.19	0.22	0.24	0.29	0.33	0.4	0.54	0.69	0.84	0.92	0.98
<u> </u>	13–14	0.016	0.032	0.053	0.069	0.093	0.11	0.14	0.15	0.18	0.23	0.27	0.32	0.34	0.43	0.53	0.69	0.85	0.98	0.99	1.0
angle	12–13	0.017	0.034	0.058	0.087	0.11	0.14	0.17	0.2	0.23	0.28	0.32	0.38	0.44	0.55	0.71	0.96	1.0	1.0	1.0	1.0
	11–12	0.022	0.045	0.071	0.1	0.13	0.16	0.2	0.23	0.27	0.33	0.4	0.5	0.59	0.78	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.024	0.052	0.085	0.12	0.16	0.2	0.24	0.29	0.34	0.43	0.53	0.72	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
12	9–10	0.032	0.065	0.11	0.15	0.2	0.25	0.31	0.36	0.46	0.56	0.69	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.039	0.08	0.13	0.19	0.25	0.32	0.4	0.49	0.58	0.78	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.051	0.11	0.17	0.25	0.33	0.42	0.51	0.61	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
. <u>E</u>	6–7	0.068	0.14	0.23	0.32	0.42	0.53	0.63	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tã	5–6	0.088	0.18	0.29	0.4	0.53	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.11	0.22	0.36	0.63	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.27	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.49	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 30. [20 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 17).

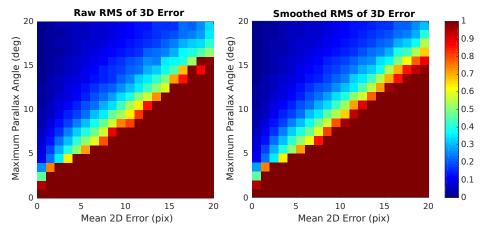


Figure 18. [22 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0089	0.019	0.032	0.04	0.053	0.054	0.066	0.074	0.088	0.1	0.11	0.13	0.14	0.16	0.17	0.17	0.23	0.21	0.26	0.33
	18–19	0.0091	0.018	0.028	0.038	0.048	0.06	0.067	0.077	0.088	0.1	0.11	0.13	0.15	0.16	0.17	0.19	0.22	0.25	0.27	0.35
	17–18	0.0091	0.019	0.032	0.04	0.055	0.066	0.078	0.089	0.095	0.12	0.13	0.14	0.17	0.18	0.21	0.23	0.29	0.33	0.33	0.42
	16–17	0.0094	0.02	0.031	0.042	0.053	0.071	0.087	0.096	0.11	0.13	0.15	0.16	0.21	0.23	0.24	0.29	0.37	0.39	0.45	0.51
1 00	15–16	0.01	0.02	0.032	0.049	0.063	0.083	0.1	0.12	0.14	0.17	0.19	0.21	0.25	0.24	0.36	0.37	0.4	0.53	1.0	0.98
(deg)	14–15	0.014	0.027	0.046	0.062	0.077	0.099	0.11	0.14	0.16	0.18	0.21	0.22	0.29	0.31	0.39	0.45	0.69	1.0	0.87	1.0
(e)	13–14	0.015	0.033	0.05	0.069	0.087	0.11	0.13	0.15	0.17	0.2	0.24	0.32	0.35	0.41	0.49	0.7	0.85	1.0	1.0	1.0
angle	12–13	0.016	0.034	0.057	0.08	0.11	0.14	0.16	0.2	0.22	0.26	0.31	0.35	0.43	0.52	0.59	1.0	1.0	1.0	1.0	1.0
	11–12	0.021	0.045	0.069	0.091	0.12	0.16	0.19	0.23	0.27	0.34	0.4	0.51	0.58	0.73	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.023	0.048	0.082	0.12	0.15	0.19	0.23	0.28	0.33	0.44	0.54	0.63	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.032	0.061	0.1	0.14	0.19	0.23	0.3	0.36	0.46	0.53	0.63	0.82	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.037	0.078	0.13	0.18	0.24	0.3	0.38	0.47	0.56	0.75	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.05	0.1	0.17	0.24	0.33	0.41	0.48	0.57	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
. <u>E</u>	6–7	0.064	0.14	0.22	0.31	0.41	0.51	0.59	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
lĝ.	5–6	0.086	0.18	0.29	0.4	0.51	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.1	0.22	0.35	0.63	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.26	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.47	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 31. [22 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 18).

											Mean 2	D error	(pix)								
		0-1	1-2	2-3	3-4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0079	0.018	0.029	0.039	0.05	0.057	0.067	0.078	0.088	0.1	0.11	0.13	0.14	0.16	0.17	0.17	0.22	0.22	0.25	0.31
	18–19	0.009	0.018	0.029	0.039	0.05	0.06	0.067	0.078	0.09	0.1	0.11	0.13	0.15	0.16	0.18	0.19	0.23	0.25	0.29	0.39
	17–18	0.0091	0.019	0.031	0.04	0.054	0.066	0.078	0.089	0.095	0.12	0.13	0.14	0.17	0.18	0.21	0.23	0.29	0.33	0.39	0.53
	16–17	0.0094	0.02	0.031	0.042	0.054	0.071	0.087	0.097	0.11	0.13	0.15	0.16	0.2	0.23	0.24	0.3	0.4	0.43	0.53	0.66
	15–16	0.01	0.02	0.032	0.049	0.063	0.083	0.1	0.12	0.14	0.17	0.19	0.21	0.25	0.27	0.33	0.37	0.49	0.61	0.77	0.88
(deg)	14–15	0.014	0.027	0.046	0.062	0.077	0.098	0.11	0.14	0.16	0.18	0.22	0.23	0.29	0.32	0.39	0.55	0.7	0.85	0.93	0.98
(e)	13–14	0.015	0.032	0.05	0.069	0.087	0.11	0.13	0.15	0.17	0.21	0.24	0.32	0.34	0.43	0.53	0.69	0.86	0.98	0.99	1.0
angle	12–13	0.016	0.034	0.057	0.08	0.11	0.14	0.16	0.2	0.22	0.26	0.31	0.35	0.44	0.55	0.71	0.96	1.0	1.0	1.0	1.0
	11–12	0.021	0.045	0.069	0.091	0.12	0.16	0.19	0.23	0.27	0.33	0.4	0.5	0.58	0.78	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.023	0.048	0.082	0.12	0.15	0.19	0.23	0.28	0.33	0.43	0.53	0.72	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.032	0.061	0.1	0.14	0.19	0.23	0.3	0.36	0.46	0.54	0.66	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.037	0.078	0.13	0.18	0.24	0.3	0.38	0.47	0.57	0.78	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.05	0.1	0.17	0.24	0.33	0.41	0.48	0.58	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.064	0.14	0.22	0.31	0.41	0.51	0.6	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Jã	5–6	0.086	0.18	0.29	0.4	0.51	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.1	0.22	0.35	0.63	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.27	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.47	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 32. [22 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 18).

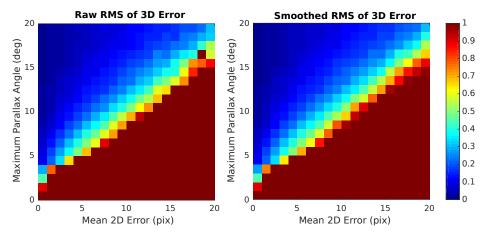


Figure 19. [24 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	pix)								
		0-1	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11-12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.007	0.019	0.029	0.041	0.052	0.057	0.067	0.086	0.08	0.091	0.11	0.11	0.13	0.14	0.16	0.17	0.2	0.2	0.22	0.3
	18–19	0.0084	0.017	0.026	0.037	0.046	0.058	0.066	0.076	0.093	0.099	0.11	0.14	0.14	0.15	0.19	0.17	0.23	0.24	0.28	0.32
	17–18	0.0091	0.019	0.028	0.041	0.053	0.062	0.071	0.086	0.095	0.1	0.12	0.14	0.17	0.19	0.19	0.23	0.25	0.28	0.41	0.55
	16-17	0.0084	0.018	0.029	0.04	0.052	0.066	0.079	0.099	0.12	0.13	0.16	0.16	0.17	0.23	0.23	0.28	0.35	0.39	1.0	0.57
	15–16	0.0094	0.02	0.03	0.047	0.06	0.08	0.1	0.11	0.13	0.15	0.18	0.2	0.23	0.27	0.29	0.39	0.49	0.73	0.78	0.86
(deg)	14–15	0.014	0.027	0.042	0.059	0.075	0.095	0.11	0.13	0.14	0.18	0.21	0.25	0.28	0.32	0.38	0.39	0.61	0.83	1.0	1.0
e (e	13–14	0.015	0.03	0.048	0.065	0.084	0.1	0.13	0.15	0.17	0.21	0.23	0.29	0.32	0.42	0.49	0.59	0.72	1.0	1.0	1.0
angle	12-13	0.016	0.032	0.054	0.076	0.11	0.13	0.15	0.17	0.21	0.24	0.31	0.35	0.44	0.59	0.65	1.0	1.0	1.0	1.0	1.0
	11–12	0.021	0.043	0.067	0.092	0.12	0.15	0.18	0.22	0.26	0.32	0.38	0.48	0.55	0.68	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.024	0.047	0.081	0.12	0.15	0.18	0.23	0.26	0.34	0.4	0.5	0.61	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.03	0.06	0.096	0.13	0.18	0.23	0.29	0.35	0.45	0.55	0.7	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.036	0.077	0.12	0.18	0.23	0.3	0.37	0.45	0.58	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ħ	7–8	0.047	0.099	0.16	0.22	0.31	0.39	0.47	0.59	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Į.Ę	6–7	0.063	0.13	0.21	0.31	0.4	0.49	0.6	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.084	0.17	0.27	0.38	0.5	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.099	0.21	0.34	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.3	0.77	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.45	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 33. [24 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 19).

											Mean 2	D error (	pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11-12	12-13	13-14	14–15	15–16	16–17	17–18	18-19	19–20
	19–20	0.0079	0.018	0.027	0.039	0.049	0.057	0.067	0.078	0.084	0.093	0.11	0.11	0.13	0.14	0.16	0.17	0.2	0.21	0.22	0.31
	18–19	0.0084	0.018	0.027	0.039	0.049	0.059	0.067	0.078	0.09	0.099	0.11	0.13	0.14	0.15	0.18	0.18	0.23	0.24	0.29	0.4
	17-18	0.0089	0.018	0.028	0.04	0.052	0.062	0.071	0.086	0.095	0.1	0.13	0.14	0.17	0.18	0.19	0.23	0.26	0.32	0.39	0.54
	16-17	0.0089	0.018	0.029	0.04	0.052	0.066	0.079	0.097	0.11	0.13	0.15	0.16	0.18	0.23	0.23	0.3	0.4	0.43	0.54	0.67
	15–16	0.0094	0.02	0.03	0.047	0.06	0.08	0.1	0.11	0.13	0.16	0.18	0.2	0.23	0.27	0.3	0.37	0.49	0.61	0.77	0.89
(deg)	14–15	0.014	0.027	0.042	0.059	0.075	0.095	0.11	0.13	0.15	0.18	0.22	0.23	0.28	0.32	0.38	0.55	0.71	0.86	0.93	0.98
(e	13-14	0.015	0.03	0.048	0.065	0.084	0.1	0.13	0.15	0.17	0.21	0.23	0.29	0.33	0.43	0.54	0.69	0.86	0.98	1.0	1.0
angle	12-13	0.016	0.032	0.054	0.076	0.11	0.13	0.15	0.17	0.21	0.25	0.31	0.35	0.44	0.55	0.71	0.96	1.0	1.0	1.0	1.0
a	11-12	0.021	0.043	0.067	0.091	0.12	0.15	0.18	0.22	0.26	0.32	0.39	0.49	0.58	0.78	0.99	1.0	1.0	1.0	1.0	1.0
la,	10-11	0.023	0.047	0.081	0.12	0.15	0.18	0.23	0.27	0.33	0.4	0.5	0.72	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
paralla	9-10	0.03	0.06	0.096	0.13	0.18	0.23	0.29	0.35	0.45	0.54	0.66	0.94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.036	0.077	0.12	0.18	0.23	0.3	0.37	0.45	0.57	0.78	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.047	0.099	0.16	0.22	0.31	0.39	0.47	0.58	0.77	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
I.E	6–7	0.063	0.13	0.21	0.31	0.4	0.49	0.6	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Įax	5–6	0.084	0.17	0.27	0.38	0.5	0.69	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	4–5	0.099	0.21	0.34	0.63	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ì	3-4	0.28	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.45	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.89	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 34. [24 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 19).

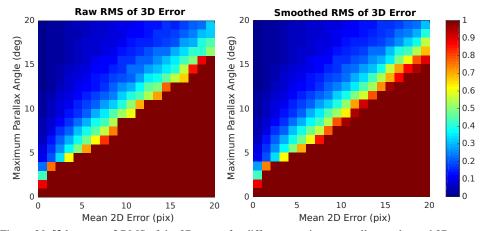


Figure 20. [26 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19-20
	19–20	0.0083	0.016	0.029	0.038	0.049	0.06	0.069	0.073	0.089	0.094	0.11	0.11	0.13	0.14	0.17	0.15	0.18	0.21	0.23	0.32
	18–19	0.0081	0.017	0.027	0.035	0.045	0.059	0.063	0.072	0.082	0.088	0.11	0.12	0.13	0.16	0.16	0.18	0.22	0.25	0.31	0.32
	17-18	0.0093	0.019	0.027	0.036	0.051	0.063	0.071	0.082	0.092	0.11	0.13	0.15	0.15	0.16	0.18	0.2	0.27	0.3	0.39	0.44
	16–17	0.0087	0.018	0.028	0.04	0.052	0.063	0.075	0.09	0.1	0.13	0.14	0.17	0.19	0.23	0.22	0.29	0.34	0.42	0.41	0.51
- C	15–16	0.0093	0.019	0.03	0.044	0.059	0.075	0.094	0.11	0.12	0.17	0.17	0.2	0.22	0.26	0.3	0.36	0.42	0.49	0.88	1.0
(deg)	14–15	0.013	0.026	0.04	0.058	0.074	0.09	0.11	0.12	0.15	0.16	0.23	0.22	0.27	0.3	0.35	0.39	0.55	0.85	1.0	1.0
e (	13–14	0.014	0.031	0.045	0.065	0.083	0.1	0.13	0.15	0.18	0.2	0.21	0.28	0.35	0.39	0.46	0.56	0.66	1.0	1.0	1.0
angle	12–13	0.015	0.03	0.051	0.074	0.099	0.12	0.14	0.17	0.2	0.26	0.28	0.36	0.46	0.5	0.78	1.0	1.0	1.0	1.0	1.0
	11–12	0.02	0.039	0.064	0.092	0.11	0.15	0.18	0.21	0.25	0.31	0.39	0.45	0.53	0.71	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.022	0.048	0.079	0.11	0.14	0.18	0.22	0.27	0.31	0.39	0.51	0.69	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.03	0.059	0.092	0.13	0.17	0.22	0.28	0.35	0.45	0.53	0.61	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.036	0.074	0.12	0.17	0.23	0.29	0.38	0.43	0.54	1.0	0.99	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
unu	7–8	0.046	0.094	0.16	0.21	0.3	0.38	0.47	0.56	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maxim	6–7	0.062	0.13	0.21	0.29	0.38	0.48	0.62	0.82	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Тa	5–6	0.08	0.16	0.26	0.36	0.49	0.71	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
_	4–5	0.094	0.2	0.34	0.61	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.23	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.44	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 35. [26 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 20).

											Mean 2	D error (	(nix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19-20	0.0079	0.016	0.027	0.036	0.047	0.057	0.067	0.073	0.084	0.093	0.11	0.11	0.13	0.14	0.16	0.17	0.18	0.21	0.22	0.31
	18-19	0.0082	0.017	0.027	0.036	0.047	0.059	0.067	0.073	0.084	0.094	0.11	0.12	0.13	0.15	0.16	0.18	0.22	0.24	0.29	0.4
	17-18	0.0089	0.018	0.027	0.038	0.051	0.062	0.071	0.082	0.092	0.1	0.13	0.14	0.15	0.17	0.19	0.22	0.26	0.32	0.39	0.55
	16-17	0.0089	0.018	0.028	0.04	0.052	0.064	0.075	0.09	0.1	0.13	0.14	0.16	0.18	0.23	0.23	0.3	0.4	0.43	0.54	0.68
	15–16	0.0093	0.019	0.03	0.044	0.059	0.075	0.094	0.11	0.12	0.16	0.17	0.2	0.22	0.27	0.3	0.36	0.49	0.61	0.78	0.9
(deg)	14-15	0.013	0.027	0.04	0.058	0.074	0.09	0.11	0.12	0.15	0.17	0.22	0.23	0.28	0.31	0.38	0.56	0.71	0.86	0.94	0.99
9	13-14	0.014	0.03	0.045	0.065	0.083	0.1	0.13	0.15	0.17	0.2	0.22	0.28	0.33	0.43	0.54	0.69	0.87	0.98	1.0	1.0
angle	12–13	0.015	0.031	0.051	0.074	0.099	0.12	0.14	0.17	0.2	0.25	0.28	0.35	0.44	0.52	0.72	0.96	1.0	1.0	1.0	1.0
	11–12	0.02	0.039	0.064	0.091	0.11	0.15	0.18	0.21	0.25	0.31	0.39	0.49	0.58	0.78	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.022	0.047	0.079	0.11	0.14	0.18	0.22	0.27	0.32	0.39	0.5	0.72	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.03	0.059	0.092	0.13	0.17	0.22	0.28	0.35	0.45	0.53	0.63	0.94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.036	0.074	0.12	0.17	0.23	0.29	0.37	0.43	0.55	0.78	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l n	7–8	0.046	0.094	0.16	0.21	0.3	0.38	0.47	0.56	0.77	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<u>:</u>	6–7	0.062	0.13	0.21	0.29	0.38	0.48	0.6	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.08	0.16	0.26	0.36	0.49	0.69	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.095	0.2	0.34	0.61	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.28	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.44	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 36. [26 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 20).

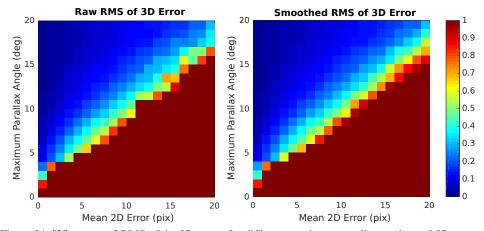


Figure 21. [28 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17-18	18–19	19–20
	19–20	0.0087	0.016	0.025	0.034	0.047	0.053	0.069	0.073	0.081	0.096	0.1	0.12	0.13	0.14	0.15	0.17	0.17	0.21	0.21	0.3
	18–19	0.0081	0.016	0.025	0.036	0.046	0.055	0.068	0.071	0.081	0.097	0.11	0.11	0.12	0.13	0.16	0.18	0.2	0.24	0.27	0.34
	17–18	0.0087	0.016	0.027	0.039	0.046	0.057	0.07	0.081	0.089	0.1	0.12	0.14	0.13	0.17	0.19	0.24	0.24	0.26	0.32	0.39
	16–17	0.0083	0.017	0.028	0.039	0.052	0.065	0.074	0.088	0.1	0.12	0.13	0.16	0.18	0.21	0.23	0.28	0.36	0.49	0.49	0.79
-	15–16	0.0087	0.018	0.029	0.044	0.055	0.074	0.09	0.11	0.12	0.14	0.16	0.2	0.22	0.29	0.3	0.34	0.58	0.45	0.8	1.0
(deg)	14–15	0.013	0.027	0.039	0.058	0.071	0.088	0.11	0.12	0.14	0.16	0.19	0.21	0.29	0.31	0.35	0.4	0.75	1.0	1.0	1.0
e (	13–14	0.014	0.029	0.045	0.064	0.079	0.099	0.12	0.14	0.16	0.2	0.22	0.28	0.31	0.4	0.71	0.68	1.0	1.0	1.0	1.0
angle	12–13	0.015	0.03	0.051	0.074	0.093	0.12	0.14	0.17	0.21	0.25	0.28	0.33	0.38	0.5	0.55	0.9	1.0	1.0	1.0	1.0
	11–12	0.019	0.039	0.059	0.086	0.11	0.14	0.17	0.2	0.24	0.3	0.37	0.53	0.55	0.79	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.022	0.045	0.073	0.1	0.14	0.17	0.21	0.26	0.32	0.39	0.47	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.027	0.056	0.092	0.13	0.17	0.21	0.28	0.32	0.41	0.49	0.62	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.035	0.07	0.11	0.17	0.22	0.29	0.37	0.43	0.52	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.045	0.092	0.15	0.21	0.29	0.36	0.48	0.55	0.81	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
i i	6–7	0.059	0.13	0.2	0.28	0.37	0.47	0.58	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Тa	5–6	0.079	0.16	0.25	0.35	0.48	0.67	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
7	4–5	0.095	0.19	0.31	0.52	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.23	0.77	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.42	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 37. [28 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 21).

											Mean 2	D error (	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19-20	0.0079	0.016	0.026	0.034	0.046	0.053	0.067	0.072	0.081	0.093	0.1	0.11	0.13	0.14	0.15	0.17	0.17	0.21	0.21	0.3
	18-19	0.0082	0.016	0.026	0.036	0.046	0.055	0.067	0.072	0.084	0.094	0.11	0.12	0.13	0.14	0.16	0.18	0.22	0.24	0.29	0.4
	17-18	0.0085	0.016	0.027	0.038	0.046	0.058	0.07	0.081	0.089	0.1	0.12	0.14	0.14	0.17	0.19	0.22	0.26	0.32	0.39	0.56
	16-17	0.0085	0.017	0.028	0.039	0.052	0.064	0.074	0.088	0.1	0.12	0.13	0.16	0.18	0.21	0.23	0.3	0.4	0.43	0.54	0.69
	15–16	0.0087	0.018	0.029	0.044	0.057	0.074	0.09	0.11	0.12	0.14	0.16	0.2	0.22	0.27	0.3	0.35	0.49	0.61	0.79	0.9
(deg)	14-15	0.013	0.027	0.04	0.058	0.071	0.088	0.11	0.12	0.14	0.17	0.19	0.21	0.28	0.31	0.38	0.57	0.72	0.87	0.95	0.99
9	13-14	0.014	0.029	0.045	0.064	0.079	0.099	0.12	0.14	0.16	0.2	0.22	0.28	0.31	0.43	0.54	0.7	0.87	0.99	1.0	1.0
angle	12–13	0.015	0.03	0.051	0.074	0.093	0.12	0.14	0.17	0.2	0.25	0.28	0.34	0.41	0.52	0.72	0.97	1.0	1.0	1.0	1.0
	11–12	0.019	0.039	0.059	0.086	0.11	0.14	0.17	0.2	0.24	0.3	0.37	0.49	0.58	0.78	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.022	0.045	0.074	0.1	0.14	0.17	0.21	0.26	0.32	0.39	0.49	0.72	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.027	0.056	0.092	0.13	0.17	0.21	0.28	0.32	0.41	0.49	0.63	0.94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.035	0.07	0.11	0.17	0.22	0.29	0.37	0.43	0.55	0.78	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.045	0.092	0.15	0.21	0.29	0.36	0.47	0.55	0.77	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<u>:</u>	6–7	0.059	0.13	0.2	0.28	0.37	0.47	0.59	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ta <sub>2</sub>	5–6	0.079	0.16	0.25	0.35	0.48	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.095	0.19	0.31	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.28	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.42	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 38. [28 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 21).

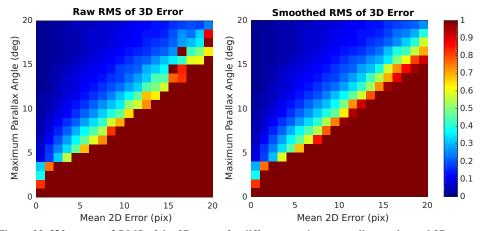


Figure 22. [30 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0082	0.017	0.027	0.035	0.047	0.052	0.062	0.069	0.075	0.087	0.1	0.12	0.12	0.13	0.14	0.17	0.18	0.19	0.19	0.25
	18–19	0.0079	0.016	0.025	0.033	0.045	0.053	0.063	0.07	0.088	0.096	0.095	0.11	0.13	0.13	0.14	0.2	0.26	0.23	0.32	0.88
	17–18	0.0078	0.016	0.025	0.037	0.046	0.059	0.067	0.073	0.087	0.098	0.11	0.12	0.14	0.16	0.18	0.21	0.27	0.31	0.34	0.97
	16–17	0.0081	0.017	0.028	0.036	0.044	0.061	0.074	0.083	0.1	0.12	0.13	0.15	0.17	0.2	0.22	0.26	1.0	0.42	0.5	0.64
- Co	15–16	0.0087	0.016	0.027	0.043	0.058	0.069	0.087	0.1	0.12	0.14	0.16	0.2	0.21	0.26	0.3	0.36	0.42	0.58	0.6	1.0
(deg)	14–15	0.012	0.025	0.04	0.053	0.07	0.082	0.1	0.12	0.14	0.18	0.19	0.22	0.28	0.32	0.36	1.0	0.83	1.0	1.0	1.0
e (	13–14	0.014	0.028	0.045	0.063	0.079	0.096	0.11	0.14	0.16	0.18	0.23	0.27	0.32	0.44	0.45	0.77	0.82	1.0	1.0	1.0
angle	12–13	0.015	0.029	0.048	0.072	0.089	0.12	0.14	0.16	0.19	0.23	0.27	0.33	0.44	0.5	0.57	1.0	1.0	1.0	1.0	1.0
	11–12	0.019	0.038	0.059	0.085	0.11	0.13	0.17	0.2	0.25	0.3	0.36	0.45	0.69	0.63	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10–11	0.022	0.044	0.075	0.1	0.14	0.17	0.21	0.26	0.31	0.36	0.5	0.57	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.028	0.055	0.088	0.12	0.17	0.21	0.26	0.32	0.4	0.47	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.033	0.069	0.11	0.17	0.21	0.27	0.33	0.42	0.58	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1 2	7–8	0.044	0.089	0.15	0.21	0.28	0.37	0.45	0.54	0.82	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Xi.	6–7	0.058	0.12	0.19	0.28	0.36	0.45	0.59	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.077	0.16	0.25	0.34	0.45	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
_	4–5	0.092	0.19	0.31	0.55	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.32	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.39	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.82	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 39. [30 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 22).

											Mean 2	D error (	(nix)								$\overline{}$
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19-20	0.0079	0.016	0.025	0.034	0.045	0.052	0.062	0.069	0.076	0.089	0.098	0.11	0.12	0.13	0.14	0.17	0.17	0.19	0.21	0.25
	18-19	0.008	0.016	0.025	0.034	0.045	0.053	0.063	0.07	0.084	0.094	0.099	0.12	0.13	0.13	0.15	0.18	0.22	0.24	0.29	0.4
	17-18	0.008	0.016	0.025	0.037	0.045	0.058	0.067	0.073	0.087	0.098	0.11	0.12	0.14	0.16	0.18	0.21	0.26	0.32	0.39	0.56
	16–17	0.0081	0.017	0.027	0.037	0.045	0.061	0.074	0.083	0.1	0.12	0.13	0.15	0.17	0.2	0.23	0.3	0.4	0.43	0.55	0.7
	15–16	0.0087	0.017	0.027	0.043	0.057	0.071	0.087	0.1	0.12	0.14	0.16	0.2	0.22	0.26	0.3	0.35	0.5	0.61	0.8	0.91
(deg)	14–15	0.012	0.025	0.04	0.053	0.07	0.082	0.1	0.12	0.14	0.17	0.19	0.21	0.28	0.31	0.38	0.57	0.73	0.87	0.96	0.99
(e	13-14	0.014	0.028	0.045	0.063	0.079	0.096	0.11	0.14	0.16	0.18	0.22	0.27	0.31	0.43	0.54	0.7	0.88	0.99	1.0	1.0
angle	12–13	0.015	0.029	0.048	0.072	0.089	0.12	0.14	0.16	0.19	0.23	0.27	0.34	0.41	0.52	0.73	0.97	1.0	1.0	1.0	1.0
	11–12	0.019	0.038	0.059	0.085	0.11	0.13	0.17	0.2	0.24	0.3	0.36	0.45	0.58	0.79	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.022	0.044	0.074	0.1	0.14	0.17	0.21	0.26	0.31	0.36	0.49	0.72	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.027	0.055	0.088	0.12	0.17	0.21	0.26	0.32	0.4	0.47	0.63	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.033	0.069	0.11	0.17	0.21	0.27	0.33	0.42	0.55	0.74	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1 2	7–8	0.044	0.089	0.15	0.21	0.28	0.36	0.45	0.54	0.77	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
- i	6–7	0.058	0.12	0.19	0.28	0.36	0.45	0.59	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	5–6	0.077	0.16	0.25	0.34	0.45	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
_	4–5	0.092	0.19	0.31	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.28	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.39	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.82	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 40. [30 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 22).

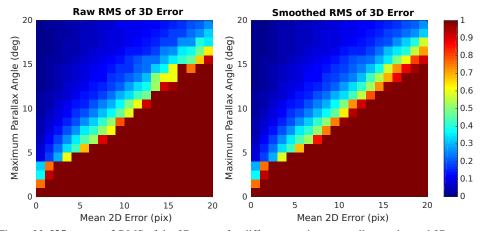


Figure 23. [35 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	(pix)								
		0-1	1-2	2-3	3–4	4–5	5-6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
	19-20	0.0084	0.017	0.023	0.033	0.04	0.052	0.061	0.069	0.077	0.094	0.095	0.11	0.12	0.12	0.13	0.15	0.17	0.2	0.21	0.25
İ	18-19	0.007	0.014	0.024	0.031	0.04	0.051	0.06	0.067	0.081	0.086	0.1	0.11	0.11	0.13	0.15	0.18	0.17	0.23	0.26	0.32
	17-18	0.0074	0.015	0.025	0.033	0.043	0.053	0.062	0.071	0.08	0.092	0.1	0.11	0.13	0.15	0.18	0.17	0.25	0.26	0.4	0.35
	16-17	0.0078	0.016	0.024	0.035	0.045	0.055	0.064	0.082	0.093	0.11	0.13	0.13	0.15	0.18	0.24	0.26	0.35	0.38	0.47	0.64
1	15–16	0.0079	0.017	0.026	0.039	0.052	0.073	0.079	0.096	0.11	0.13	0.16	0.19	0.22	0.23	0.29	0.35	0.42	0.46	0.67	0.93
(deg)	14–15	0.012	0.025	0.039	0.052	0.063	0.082	0.096	0.11	0.14	0.16	0.16	0.21	0.22	0.32	0.37	0.61	1.0	0.75	1.0	1.0
e (	13–14	0.014	0.026	0.042	0.056	0.077	0.089	0.11	0.12	0.16	0.18	0.21	0.24	0.31	0.51	0.6	0.6	1.0	1.0	1.0	1.0
angle	12–13	0.014	0.028	0.047	0.063	0.084	0.11	0.13	0.15	0.18	0.21	0.27	0.33	0.39	0.52	0.92	0.96	1.0	1.0	1.0	1.0
		0.018	0.036	0.056	0.078	0.1	0.13	0.15	0.19	0.23	0.29	0.34	0.43	0.48	1.0	1.0	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.02	0.041	0.067	0.098	0.13	0.15	0.19	0.25	0.29	0.37	0.5	0.6	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.025	0.053	0.085	0.12	0.16	0.2	0.24	0.3	0.37	0.47	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		0.032	0.066	0.1	0.15	0.2	0.26	0.32	0.41	0.52	0.79	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1 5	7–8	0.041	0.088	0.14	0.2	0.26	0.35	0.41	0.51	0.62	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	6–7	0.056	0.11	0.18	0.26	0.35	0.44	0.53	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Za Ya	5–6	0.071	0.15	0.23	0.33	0.43	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.084	0.18	0.3	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.33	0.76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.37	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 41. [35 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 23).

											Mean 2	D error (	(nix)								$\overline{}$
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19-20	0.0075	0.015	0.023	0.032	0.04	0.052	0.06	0.068	0.076	0.089	0.095	0.11	0.11	0.12	0.13	0.15	0.17	0.19	0.21	0.25
	18-19	0.0075	0.015	0.024	0.032	0.04	0.052	0.06	0.068	0.08	0.089	0.099	0.11	0.11	0.13	0.15	0.18	0.19	0.23	0.26	0.32
	17-18	0.0075	0.015	0.024	0.033	0.043	0.053	0.062	0.071	0.08	0.092	0.1	0.12	0.13	0.15	0.18	0.2	0.25	0.32	0.39	0.57
	16–17	0.0078	0.016	0.024	0.035	0.045	0.055	0.064	0.082	0.093	0.11	0.13	0.15	0.15	0.19	0.23	0.3	0.35	0.41	0.55	0.71
0	15–16	0.008	0.017	0.026	0.039	0.052	0.071	0.081	0.096	0.12	0.13	0.16	0.19	0.22	0.23	0.29	0.35	0.5	0.61	0.81	0.92
(deg)	14–15	0.012	0.025	0.039	0.052	0.066	0.082	0.096	0.11	0.14	0.16	0.18	0.21	0.23	0.31	0.38	0.58	0.73	0.88	0.96	0.99
(e	13-14	0.014	0.026	0.042	0.056	0.077	0.089	0.11	0.12	0.16	0.18	0.21	0.24	0.31	0.43	0.54	0.7	0.88	0.99	1.0	1.0
angle	12–13	0.014	0.028	0.047	0.063	0.084	0.11	0.13	0.15	0.18	0.21	0.27	0.34	0.41	0.52	0.73	0.97	1.0	1.0	1.0	1.0
	11–12	0.018	0.036	0.056	0.078	0.1	0.13	0.15	0.19	0.23	0.29	0.34	0.43	0.55	0.79	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.02	0.041	0.067	0.098	0.13	0.15	0.19	0.25	0.29	0.36	0.49	0.72	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.025	0.053	0.085	0.12	0.16	0.2	0.25	0.3	0.37	0.47	0.63	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.032	0.066	0.1	0.15	0.2	0.26	0.32	0.42	0.52	0.74	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.041	0.088	0.14	0.2	0.26	0.35	0.41	0.51	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ĿĬ	6–7	0.056	0.11	0.18	0.26	0.35	0.44	0.53	0.85	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
/ax	5–6	0.071	0.15	0.23	0.33	0.43	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
_	4–5	0.084	0.18	0.3	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.28	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.37	0.93	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 42. [35 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 23).

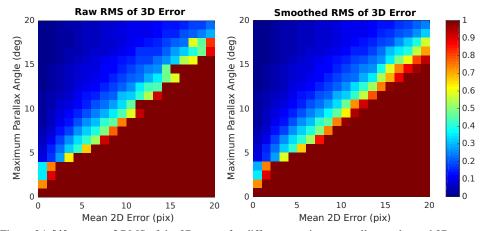


Figure 24. [40 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	(pix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11-12	12-13	13-14	14–15	15-16	16–17	17–18	18-19	19-20
	19–20	0.0085	0.015	0.023	0.033	0.04	0.05	0.058	0.065	0.071	0.085	0.095	0.11	0.1	0.11	0.13	0.13	0.16	0.17	0.18	0.22
	18–19	0.0071	0.014	0.023	0.031	0.039	0.049	0.056	0.064	0.08	0.086	0.095	0.096	0.11	0.12	0.15	0.15	0.19	0.21	0.24	0.29
	17–18	0.0068	0.014	0.023	0.031	0.042	0.051	0.057	0.07	0.075	0.087	0.1	0.12	0.13	0.15	0.17	0.22	0.23	0.58	0.45	0.82
	16–17	0.0072	0.015	0.024	0.032	0.042	0.05	0.063	0.078	0.083	0.1	0.12	0.16	0.16	0.17	0.21	0.28	0.32	0.4	0.48	0.88
	15–16	0.0081	0.015	0.026	0.038	0.05	0.064	0.084	0.094	0.12	0.13	0.15	0.17	0.19	0.22	0.26	0.33	0.55	0.6	1.0	1.0
deg)	14–15	0.011	0.024	0.034	0.049	0.068	0.08	0.09	0.11	0.12	0.15	0.18	0.21	0.25	0.27	0.47	1.0	1.0	1.0	1.0	1.0
$\sim$	13–14	0.013	0.025	0.04	0.055	0.069	0.084	0.11	0.12	0.14	0.18	0.21	0.23	0.29	0.35	0.48	0.58	1.0	1.0	1.0	1.0
angle	12–13	0.013	0.026	0.042	0.06	0.081	0.1	0.12	0.15	0.18	0.21	0.26	0.35	0.43	0.44	1.0	1.0	1.0	1.0	1.0	1.0
B	11–12	0.016	0.034	0.053	0.078	0.1	0.13	0.15	0.19	0.22	0.3	0.32	0.42	0.55	0.92	1.0	1.0	1.0	1.0	1.0	1.0
lla	10-11	0.019	0.039	0.063	0.091	0.12	0.15	0.19	0.22	0.27	0.33	0.46	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
paralla	9–10	0.024	0.05	0.079	0.11	0.15	0.19	0.25	0.3	0.35	0.44	0.58	0.92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l g	8–9	0.03	0.061	0.099	0.14	0.19	0.25	0.31	0.42	0.46	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	7–8	0.038	0.077	0.13	0.19	0.25	0.32	0.41	0.5	0.78	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maxim	6–7	0.052	0.11	0.17	0.26	0.33	0.41	0.52	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1ax	5–6	0.068	0.14	0.22	0.31	0.41	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	4–5	0.082	0.17	0.28	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.34	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.35	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.72	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 43. [40 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 24).

											Mean 2	D error (	(pix)								$\overline{}$
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.0073	0.014	0.023	0.032	0.039	0.049	0.057	0.065	0.071	0.085	0.095	0.1	0.1	0.12	0.13	0.13	0.16	0.17	0.21	0.24
	18–19	0.0073	0.014	0.023	0.032	0.039	0.049	0.057	0.065	0.078	0.086	0.095	0.1	0.11	0.12	0.15	0.16	0.19	0.22	0.26	0.32
	17–18	0.0073	0.014	0.023	0.032	0.042	0.051	0.057	0.07	0.078	0.087	0.1	0.12	0.13	0.15	0.17	0.2	0.25	0.32	0.39	0.57
	16–17	0.0073	0.015	0.024	0.032	0.042	0.051	0.063	0.078	0.083	0.1	0.12	0.15	0.15	0.19	0.23	0.3	0.35	0.41	0.55	0.71
- C	15–16	0.008	0.015	0.026	0.038	0.05	0.065	0.081	0.094	0.12	0.13	0.15	0.17	0.19	0.23	0.26	0.35	0.5	0.61	0.81	0.92
(deg)	14–15	0.011	0.024	0.034	0.049	0.066	0.08	0.092	0.11	0.12	0.15	0.18	0.21	0.23	0.27	0.38	0.58	0.74	0.88	0.96	0.99
(e)	13–14	0.013	0.025	0.04	0.055	0.069	0.084	0.11	0.12	0.14	0.18	0.21	0.23	0.3	0.36	0.54	0.7	0.89	0.99	1.0	1.0
angle	12–13	0.013	0.026	0.042	0.06	0.081	0.1	0.12	0.15	0.18	0.21	0.26	0.34	0.41	0.52	0.73	0.97	1.0	1.0	1.0	1.0
(a)	11–12	0.016	0.034	0.053	0.078	0.1	0.13	0.15	0.19	0.22	0.29	0.32	0.42	0.55	0.79	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.019	0.039	0.063	0.091	0.12	0.15	0.19	0.22	0.27	0.34	0.47	0.72	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.024	0.05	0.079	0.11	0.15	0.19	0.25	0.3	0.37	0.47	0.63	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.03	0.061	0.099	0.14	0.19	0.25	0.31	0.42	0.46	0.74	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.038	0.077	0.13	0.19	0.25	0.32	0.41	0.5	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.5	6–7	0.052	0.11	0.17	0.26	0.33	0.41	0.52	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tay	5–6	0.068	0.14	0.22	0.31	0.41	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-	4–5	0.082	0.17	0.28	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.28	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.35	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.72	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 44. [40 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 24).

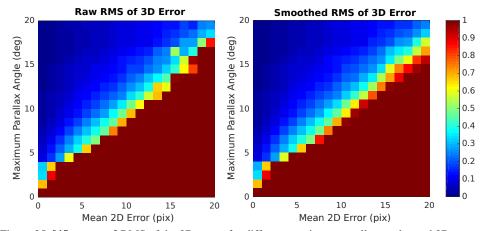


Figure 25. [45 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11–12	12-13	13-14	14–15	15–16	16–17	17–18	18–19	19–20
	19–20	0.007	0.015	0.022	0.033	0.036	0.049	0.056	0.061	0.069	0.08	0.087	0.099	0.095	0.12	0.13	0.13	0.17	0.15	0.25	0.26
	18–19	0.0067	0.013	0.02	0.029	0.037	0.044	0.055	0.059	0.067	0.079	0.081	0.097	0.1	0.11	0.14	0.17	0.2	0.22	0.29	0.33
	17–18	0.0068	0.013	0.021	0.03	0.04	0.047	0.054	0.062	0.073	0.085	0.092	0.11	0.11	0.14	0.17	0.2	0.28	0.27	0.51	0.85
	16–17	0.0069	0.014	0.023	0.031	0.038	0.052	0.058	0.072	0.081	0.1	0.11	0.14	0.14	0.21	0.24	0.53	0.29	0.4	1.0	1.0
	15–16	0.0072	0.014	0.023	0.032	0.047	0.066	0.075	0.092	0.11	0.13	0.15	0.16	0.2	0.24	0.26	0.33	0.58	0.96	1.0	1.0
deg)	14–15	0.011	0.022	0.035	0.049	0.064	0.076	0.095	0.11	0.12	0.13	0.18	0.19	0.23	0.26	0.33	0.41	0.62	0.8	1.0	1.0
$\sim$	13–14	0.012	0.024	0.037	0.052	0.067	0.083	0.1	0.12	0.14	0.16	0.2	0.23	0.3	0.36	0.44	0.98	1.0	1.0	1.0	1.0
angle	12-13	0.012	0.025	0.04	0.057	0.079	0.1	0.11	0.14	0.17	0.21	0.25	0.3	0.38	0.66	0.61	1.0	1.0	1.0	1.0	1.0
8	11–12	0.016	0.034	0.052	0.071	0.098	0.12	0.15	0.18	0.21	0.25	0.33	0.42	0.57	0.68	1.0	1.0	1.0	1.0	1.0	1.0
lla)	10-11	0.018	0.038	0.061	0.085	0.11	0.14	0.18	0.23	0.27	0.35	0.48	0.61	0.99	1.0	1.0	1.0	1.0	1.0	1.0	1.0
paralla	9–10	0.023	0.046	0.075	0.11	0.14	0.19	0.22	0.28	0.37	0.48	0.69	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
l pg	8–9	0.029	0.058	0.093	0.13	0.18	0.24	0.31	0.38	0.45	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
III	7–8	0.037	0.074	0.12	0.18	0.24	0.31	0.39	0.46	0.73	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maxim	6–7	0.049	0.11	0.16	0.24	0.31	0.4	0.49	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1ax	5–6	0.067	0.14	0.21	0.3	0.39	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.08	0.16	0.28	0.61	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.31	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.34	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 45. [45 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 25).

											Mean 2	D error (	nix)								
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18-19	19-20
	19-20	0.0068	0.014	0.021	0.03	0.037	0.046	0.055	0.06	0.068	0.08	0.084	0.097	0.097	0.11	0.13	0.13	0.16	0.16	0.21	0.24
	18–19	0.0068	0.014	0.021	0.03	0.037	0.046	0.055	0.06	0.068	0.08	0.084	0.097	0.1	0.11	0.14	0.16	0.19	0.22	0.26	0.32
	17-18	0.0068	0.014	0.021	0.03	0.039	0.047	0.055	0.062	0.073	0.085	0.092	0.11	0.11	0.14	0.17	0.2	0.25	0.28	0.39	0.58
	16-17	0.0069	0.014	0.023	0.031	0.039	0.051	0.058	0.072	0.081	0.1	0.11	0.14	0.15	0.19	0.23	0.3	0.35	0.4	0.55	0.71
	15-16	0.0072	0.014	0.023	0.034	0.048	0.065	0.076	0.092	0.11	0.13	0.15	0.17	0.19	0.23	0.26	0.35	0.5	0.61	0.81	0.93
(deg)	14-15	0.011	0.022	0.034	0.049	0.064	0.076	0.092	0.11	0.12	0.13	0.18	0.19	0.23	0.26	0.34	0.58	0.74	0.87	0.97	0.99
9	13-14	0.012	0.024	0.037	0.052	0.067	0.083	0.1	0.12	0.14	0.16	0.2	0.23	0.3	0.36	0.54	0.7	0.89	0.99	1.0	1.0
angle	12-13	0.012	0.025	0.04	0.057	0.079	0.1	0.11	0.14	0.17	0.21	0.25	0.3	0.38	0.52	0.74	0.97	1.0	1.0	1.0	1.0
	11-12	0.016	0.034	0.052	0.071	0.098	0.12	0.15	0.18	0.21	0.25	0.32	0.42	0.55	0.79	0.99	1.0	1.0	1.0	1.0	1.0
parallax	10-11	0.018	0.038	0.061	0.085	0.11	0.14	0.18	0.22	0.27	0.34	0.47	0.63	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ıra	9–10	0.023	0.046	0.075	0.11	0.14	0.19	0.22	0.28	0.37	0.47	0.63	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.029	0.058	0.093	0.13	0.18	0.24	0.31	0.38	0.46	0.7	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	7–8	0.037	0.074	0.12	0.18	0.24	0.31	0.39	0.47	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<u>I</u> .	6–7	0.049	0.11	0.16	0.24	0.31	0.4	0.5	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1ax	5–6	0.067	0.14	0.21	0.3	0.39	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
~	4–5	0.08	0.16	0.28	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.28	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.34	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 46. [45 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 25).

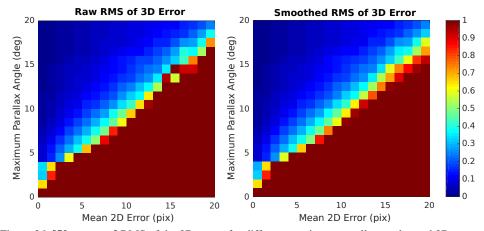


Figure 26. [50 cameras] RMS of the 3D errors for different maximum parallax angles and 2D errors.

											Mean 2	D error (	(pix)								
		0-1	1–2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10-11	11-12	12-13	13-14	14–15	15-16	16–17	17–18	18-19	19-20
Maximum parallax angle (deg)	19–20	0.0064	0.015	0.021	0.031	0.038	0.046	0.055	0.062	0.067	0.073	0.083	0.091	0.097	0.1	0.12	0.12	0.15	0.17	0.2	0.24
	18-19	0.0064	0.013	0.02	0.028	0.036	0.042	0.051	0.059	0.067	0.073	0.08	0.089	0.1	0.11	0.13	0.15	0.16	0.22	0.27	0.38
	17–18	0.0063	0.013	0.022	0.029	0.035	0.045	0.051	0.063	0.067	0.077	0.088	0.1	0.11	0.14	0.15	0.2	0.26	0.28	0.38	0.72
	16–17	0.0063	0.013	0.021	0.029	0.038	0.046	0.057	0.069	0.08	0.094	0.12	0.12	0.15	0.17	0.21	0.27	0.4	0.37	0.52	1.0
	15–16	0.0067	0.014	0.023	0.037	0.049	0.059	0.076	0.093	0.11	0.13	0.16	0.17	0.17	0.22	0.26	0.31	0.44	0.74	1.0	1.0
	14–15	0.011	0.022	0.032	0.047	0.062	0.076	0.088	0.11	0.12	0.13	0.16	0.19	0.22	0.25	0.35	1.0	0.91	0.92	1.0	1.0
	13–14	0.011	0.023	0.036	0.048	0.063	0.078	0.093	0.11	0.14	0.16	0.18	0.22	0.26	0.36	0.95	0.57	1.0	1.0	1.0	1.0
	12-13	0.012	0.024	0.037	0.053	0.071	0.092	0.11	0.13	0.17	0.21	0.25	0.31	0.37	0.53	1.0	1.0	1.0	1.0	1.0	1.0
	11–12	0.016	0.031	0.048	0.07	0.092	0.12	0.14	0.16	0.2	0.25	0.32	0.37	0.63	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	10-11	0.018	0.035	0.058	0.082	0.1	0.14	0.17	0.21	0.25	0.34	0.41	0.65	0.96	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	9–10	0.022	0.045	0.073	0.099	0.13	0.17	0.22	0.27	0.39	0.48	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.027	0.057	0.091	0.13	0.18	0.23	0.28	0.36	0.46	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	7–8	0.037	0.074	0.12	0.17	0.23	0.3	0.38	0.48	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	6–7	0.048	0.096	0.16	0.23	0.3	0.38	0.51	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	5–6	0.064	0.13	0.2	0.28	0.39	0.67	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	4–5	0.077	0.15	0.25	0.61	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3-4	0.33	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2-3	0.31	0.83	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1-2	0.64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0-1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 47. [50 cameras] Raw RMS of 3D errors (corresponding to the right of Fig. 26).

		Mean 2D error (pix)																			
		0-1	1-2	2-3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12-13	13–14	14–15	15–16	16–17	17–18	18-19	19–20
	19-20	0.0068	0.014	0.021	0.03	0.037	0.046	0.055	0.06	0.068	0.08	0.084	0.097	0.097	0.11	0.13	0.13	0.16	0.16	0.21	0.24
	18-19	0.0068	0.014	0.021	0.03	0.037	0.046	0.055	0.06	0.068	0.08	0.084	0.097	0.1	0.11	0.14	0.16	0.19	0.22	0.26	0.32
	17-18	0.0068	0.014	0.021	0.03	0.039	0.047	0.055	0.062	0.073	0.085	0.092	0.11	0.11	0.14	0.17	0.2	0.25	0.28	0.39	0.58
	16-17	0.0069	0.014	0.023	0.031	0.039	0.051	0.058	0.072	0.081	0.1	0.11	0.14	0.15	0.19	0.23	0.3	0.35	0.4	0.55	0.71
	15-16	0.0072	0.014	0.023	0.034	0.048	0.065	0.076	0.092	0.11	0.13	0.15	0.17	0.19	0.23	0.26	0.35	0.5	0.61	0.81	0.93
(deg)	14-15	0.011	0.022	0.034	0.049	0.064	0.076	0.092	0.11	0.12	0.13	0.18	0.19	0.23	0.26	0.34	0.58	0.74	0.87	0.97	0.99
9	13-14	0.012	0.024	0.037	0.052	0.067	0.083	0.1	0.12	0.14	0.16	0.2	0.23	0.3	0.36	0.54	0.7	0.89	0.99	1.0	1.0
parallax angle	12–13	0.012	0.025	0.04	0.057	0.079	0.1	0.11	0.14	0.17	0.21	0.25	0.3	0.38	0.52	0.74	0.97	1.0	1.0	1.0	1.0
	11–12	0.016	0.034	0.052	0.071	0.098	0.12	0.15	0.18	0.21	0.25	0.32	0.42	0.55	0.79	0.99	1.0	1.0	1.0	1.0	1.0
	10-11	0.018	0.038	0.061	0.085	0.11	0.14	0.18	0.22	0.27	0.34	0.47	0.63	0.91	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ara	9–10	0.023	0.046	0.075	0.11	0.14	0.19	0.22	0.28	0.37	0.47	0.63	0.95	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	8–9	0.029	0.058	0.093	0.13	0.18	0.24	0.31	0.38	0.46	0.7	0.97	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1 2	7–8	0.037	0.074	0.12	0.18	0.24	0.31	0.39	0.47	0.74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	6–7	0.049	0.11	0.16	0.24	0.31	0.4	0.5	0.86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	5–6	0.067	0.14	0.21	0.3	0.39	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	4–5	0.08	0.16	0.28	0.59	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	3–4	0.28	0.66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2–3	0.34	0.88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1–2	0.68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	0–1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Table 48. [50 cameras] Smoothed RMS of 3D errors (corresponding to the right of Fig. 26).

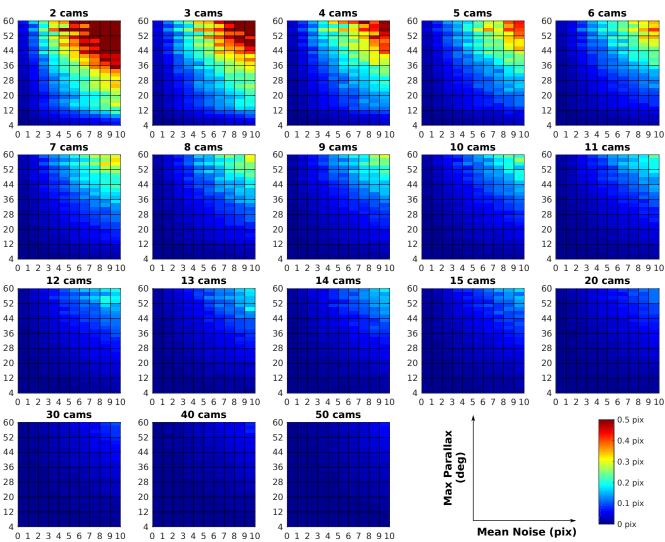


Figure 27. Mean decrease of 2D error in  $L_1$  norm by performing GN in addition to DLT, i.e.,  $\overline{e}_{\text{2D DLT}} - \overline{e}_{\text{2D GN}}$ , for different numbers of cameras, maximum parallax angles and mean noise magnitudes. The redder the color, the more accurate GN is than DLT.

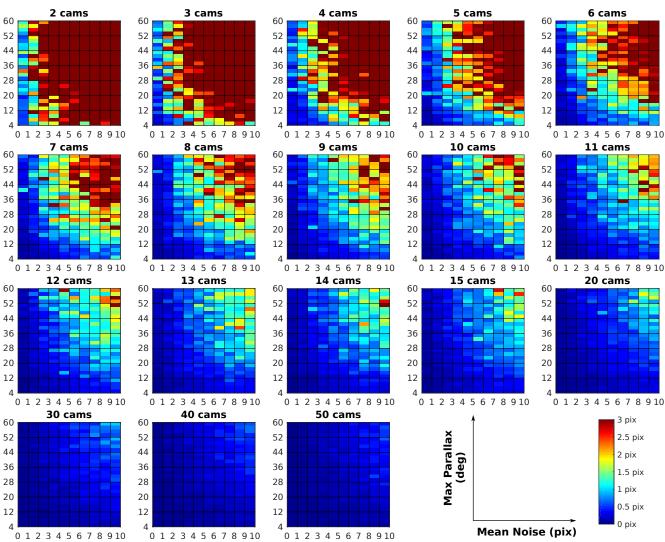


Figure 28. Maximum decrease of 2D error in  $L_1$  norm by performing GN in addition to DLT, *i.e.*,  $\max(e_{\text{2D DLT}} - e_{\text{2D GN}})$ , for different numbers of cameras, maximum parallax angles and mean noise magnitudes. The redder the color, the more accurate GN is than DLT.

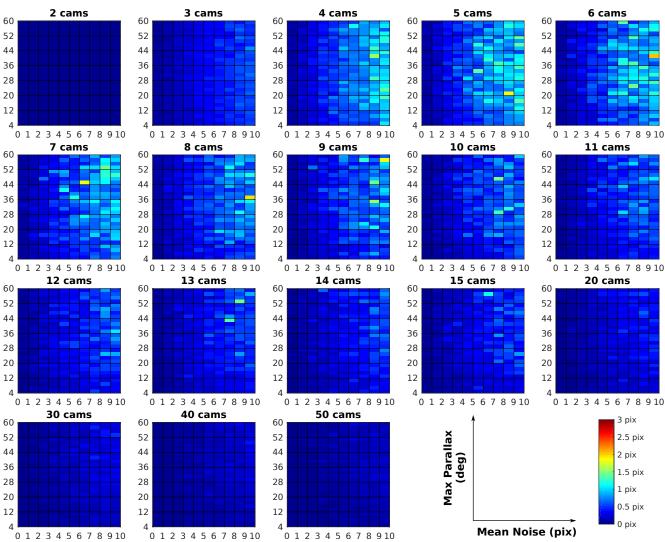


Figure 29. Maximum increase of 2D error in  $L_1$  norm by performing GN in addition to DLT, *i.e.*,  $\max(e_{\text{2D GN}} - e_{\text{2D DLT}})$ , for different numbers of cameras, maximum parallax angles and mean noise magnitudes. The redder the color, the more accurate DLT is than GN.

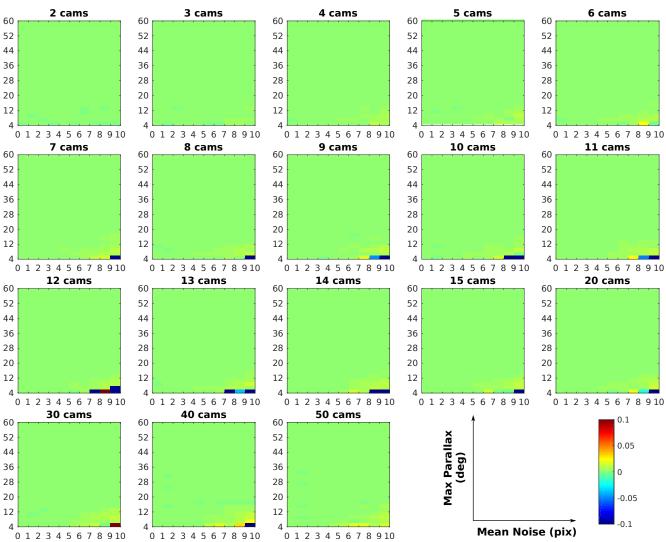


Figure 30. Mean decrease of 3D error by performing GN in addition to DLT, i.e.,  $\bar{e}_{3D\,DLT} - \bar{e}_{3D\,GN}$ , for different numbers of cameras, maximum parallax angles and image noise level. The redder the color, the more accurate GN is than DLT.

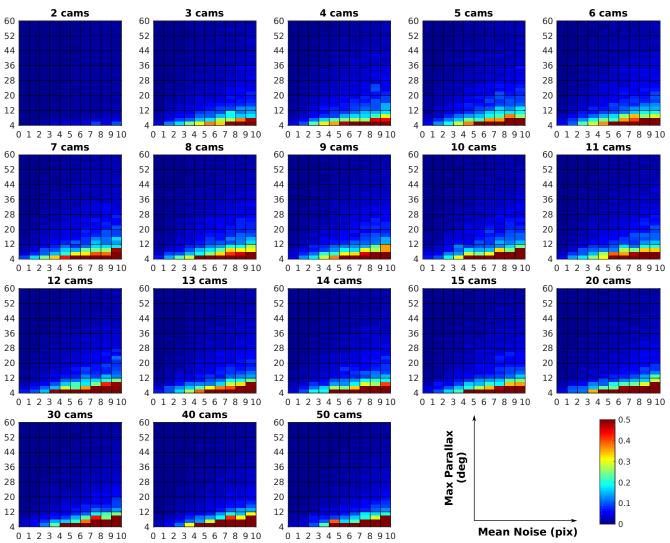


Figure 31. Maximum decrease of 3D error by performing GN in addition to DLT, *i.e.*,  $\max(e_{3\text{D DLT}} - e_{3\text{D GN}})$ , for different numbers of cameras, maximum parallax angles and image noise level. The redder the color, the more accurate GN is than DLT.

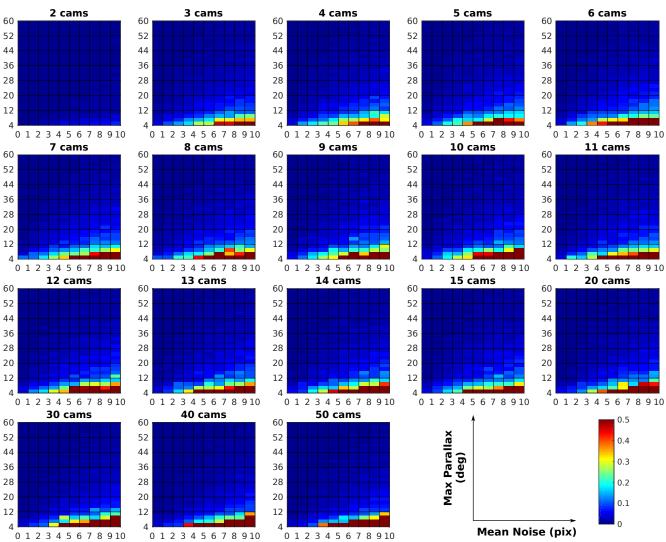


Figure 32. Maximum increase of 3D error by performing GN in addition to DLT, *i.e.*,  $\max(e_{3D \text{ GN}} - e_{3D \text{ DLT}})$ , for different numbers of cameras, maximum parallax angles and image noise level. The redder the color, the more accurate DLT is than GN.

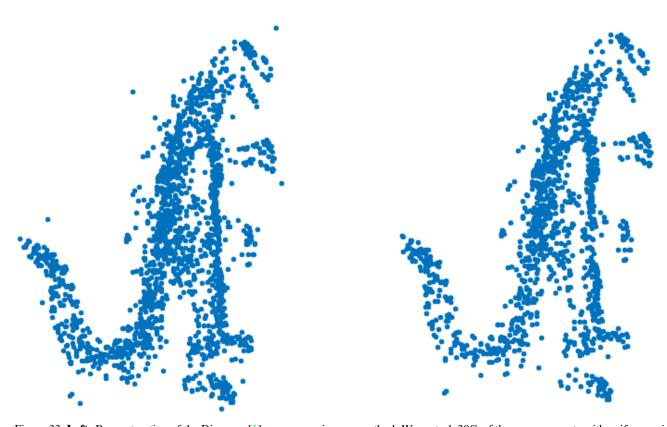


Figure 33. **Left:** Reconstruction of the Dinosaur [1] sequence using our method. We perturb 30% of the measurements with uniform noise between 10 and 100 pix. **Right:** Reconstruction after pruning the top 25% of the most uncertain points identified by our method. Notice that some of the most inaccurate points are removed.

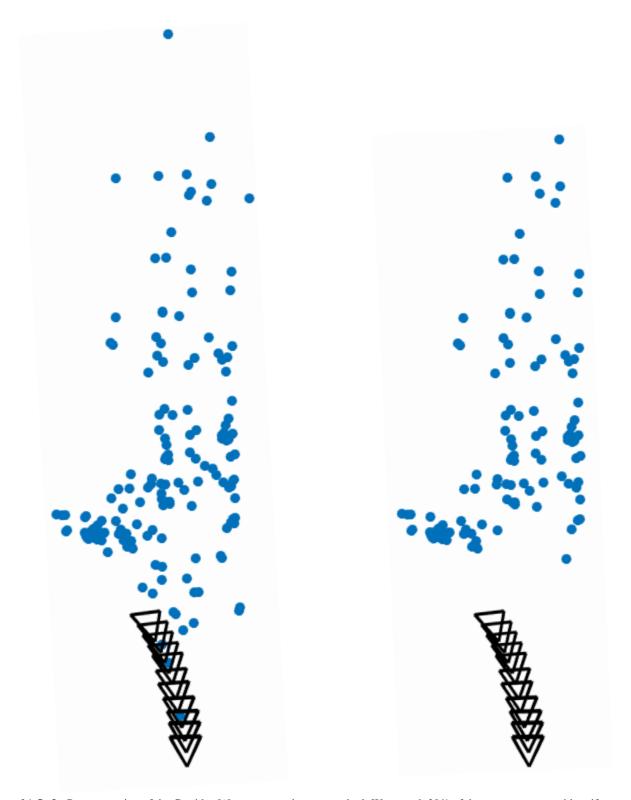


Figure 34. **Left:** Reconstruction of the Corridor [1] sequence using our method. We perturb 30% of the measurements with uniform noise between 10 and 100 pix. **Right:** Reconstruction after pruning the top 25% of the most uncertain points identified by our method. Notice that some of the most inaccurate points are removed.

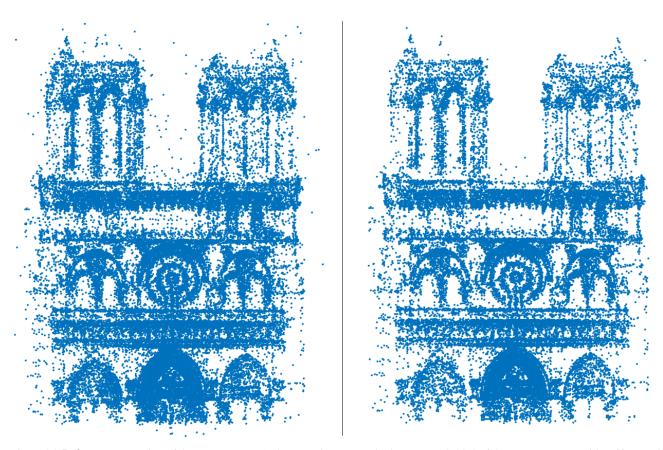


Figure 35. **Left:** Reconstruction of the Notre Dame [3] dataset using our method. We perturb 30% of the measurements with uniform noise between 10 and 100 pix. **Right:** Reconstruction after pruning the top 25% of the most uncertain points identified by our method. Notice that some of the most inaccurate points are removed.

## References

- [1] Oxford Multiview Datasets. http://www.robots.ox.ac.uk/~vgg/data/data-mview.html. 38, 39
- [2] S. H. Lee and J. Civera. Triangulation: Why optimize? In British Machine Vision Conference, 2019. 4
- [3] N. Snavely, S. M. Seitz, and R. Szeliski. Photo tourism: exploring photo collections in 3D. *ACM Trans. Graph.*, 25(3):835–846, 2006.