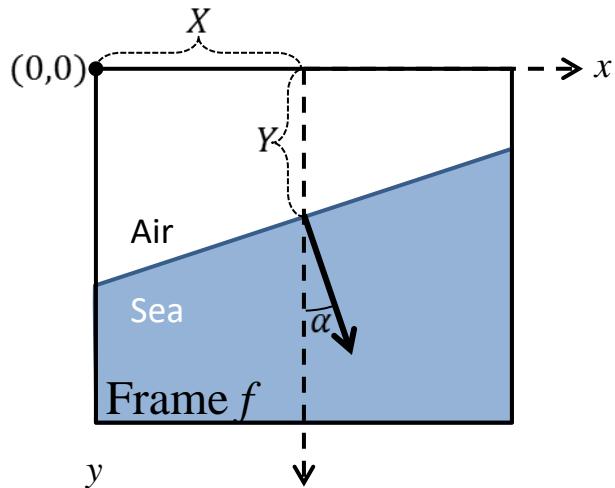


Ground truth data for horizon



Ground truth

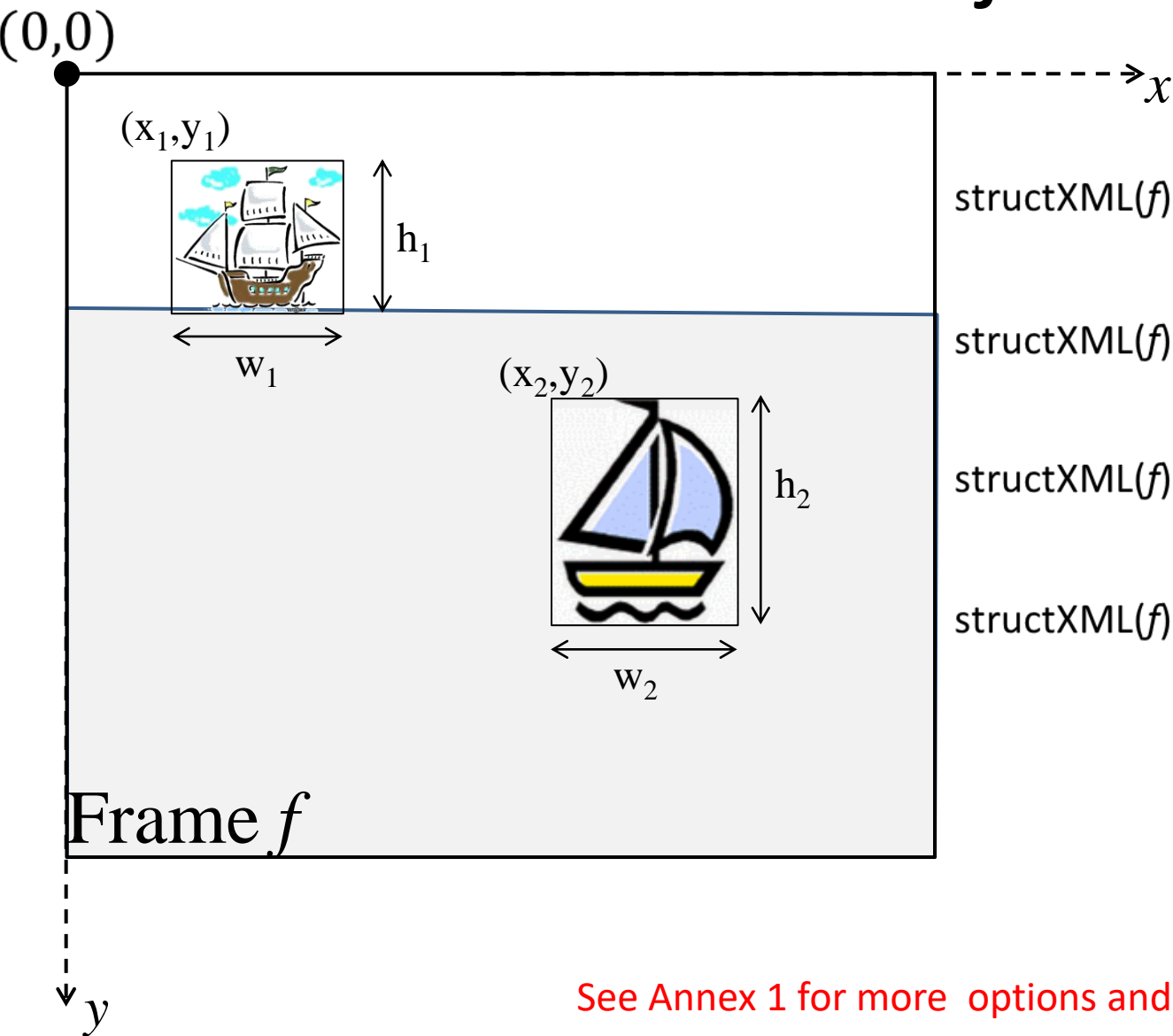
$\text{structXML}(f).X = X$ (see left)

$\text{structXML}(f).Y = Y$ (see left)

$\text{structXML}(f).Nx = \cos(\alpha)$ (see left)

$\text{structXML}(f).Ny = \sin(\alpha)$ (see left)

Ground truth for object detection



$\text{structXML}(f).\text{MotionType} = \begin{bmatrix} \textit{Moving} \\ \textit{Stationary} \end{bmatrix}$

$\text{structXML}(f).\text{ObjectType} = \begin{bmatrix} \textit{Vessel / ship} \\ \textit{Sail boat} \end{bmatrix}$

$\text{structXML}(f).\text{DistanceType} = \begin{bmatrix} \textit{Far} \\ \textit{Near} \end{bmatrix}$

$\text{structXML}(f).\text{BB} = \begin{bmatrix} x1 & y1 & w1 & h1 \\ x2 & y2 & w2 & h2 \end{bmatrix}$

See Annex 1 for more options and other fields of struct XML

Ground truth for tracking

For any object that appears after frame f_1 , 0 is assigned to all corresponding entries for $f < f_1$

For any object that disappears after frame f_2 , -1 is assigned to all corresponding entries for $f > f_2$

Structure array: Track

Each array element corresponds to one object.

Track(o). MotionType : 1-D array of size F (F is the total number of frames in the video, MotionType corresponds to the structXML.MotionType of the object o in the object detection ground truth file)

Track(o). Object type: Analogous to Track(o). MotionType

Track(o).DistanceType: Analogous to Track(o). MotionType

Track(o).BB: 2-D array of size F x 4. Row f corresponds to the row of structXML.BB corresponding to this object in the object detection ground truth.

Structure TrackAnalysis

TrackAnalysis.Xi: 2-D array of size F x O (F is the number of frames in the video, O is the number of object tracks). Array contains the x_o values (x-coordinates of the top left corner of the BB).

TrackAnalysis.Yi: analogous to TrackAnalysis.Xi, contains the y-coordinates of the top left corner of the BB)

TrackAnalysis.Wi: analogous to TrackAnalysis.Xi, contains the widths of the BB)

TrackAnalysis.Hi: analogous to TrackAnalysis.Xi, contains the heights of the BB)

Annex 1: Ground truth for object detection

Options for the field
MotionType and
corresponding numeric
label in the field **Motion**

MotionType	Motion
Moving	1
Stationary	2
Other	3

Options for the field
ObjectType and
corresponding numeric label
in the field **Object**

ObjectType	Object
Ferry	1
Buoy	2
Vessel/ship	3
Speed boat	4
Boat	5
Kayak	6
Sail boat	7
Swimming person	8
Flying bird/plane	9
Other	10

Options for the field
DistanceType and
corresponding numeric
label in the field **Distance**

DistanceType	Distance
Near	1
Far	2
Other	3