Algorithm 1 BA 算法

Require: 散点数据集 $\mathbf{P} = \{x_c, y_c, z_c, v_c\}$

Ensure: 控制栅格 $\Phi = \{\phi_{ijk}\}$

for all i, j **do**
    $\delta_{ijk} = 0$ and $\omega_{ijk} = 0$
end for
for each point (x_c, y_c, z_c, v_c) in **P do**
    let $i = [x_c] - 1$ and $j = [y_c] - 1$ and $k = [z_c] - 1$
    let $r = x_c - [x_c]$ and $s = y_c - [y_c]$ and $t = z_c - [z_c]$
    compute w_{ijk}'s and $\sum_{d=0}^{3} \sum_{e=0}^{3} \sum_{g=0}^{3} w_{deg}^2$
    for $i, j, k = 0, 1, 2, 3$ **do**
        compute ϕ_{ijk} with Formula 2-5
        add $w_{ijk}^2 \phi_{ijk}$ to $\delta_{(a+i)(b+j)(c+k)}$
        add w_{ijk}^2 to $\omega_{(a+i)(b+j)(c+k)}$
    end for
end for
for all i, j **do**
    if $\omega_{ijk} \neq 0$ **then**
        compute $\phi_{ijk} = \delta_{ijk} / \omega_{ijk}$
    else let $\phi_{ijk} = 0$
    end if
end for