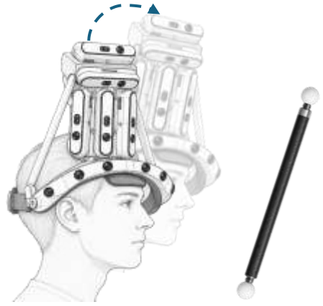
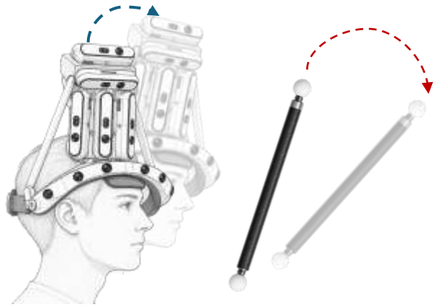
1. Capture Modes

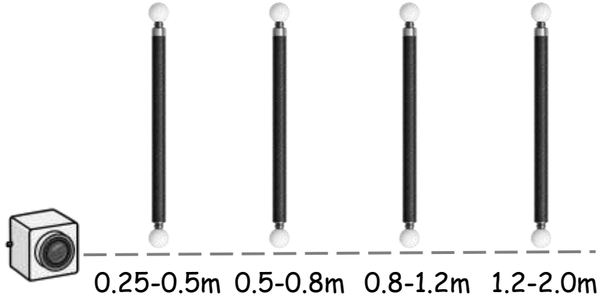
Static
(artifact fixed,
Wearer moves)



Dynamic
(artifact moves,
Wearer moves)

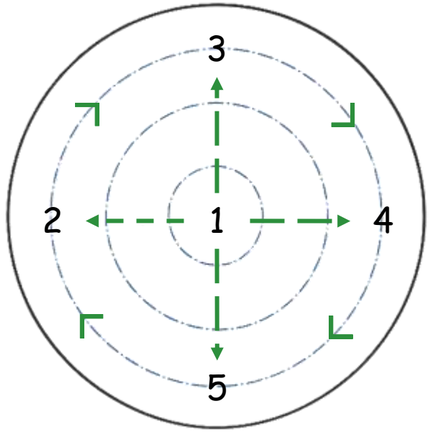


Distance (to Cam2)



2. Sampling Coverage

Fisheye Position (Cam2)



Pose

Transverse



Oblique



3. Measurement Pipeline

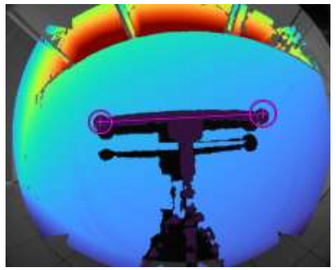
(a) Cam2 RGB



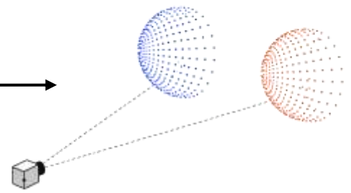
(b) RGB Localization



(c) Cam2 GT Depth

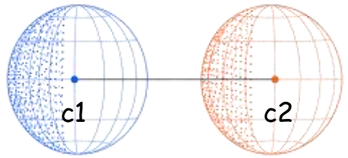


(d) Back-project to 3D



$$\mathbf{p}_i = \pi_{C_2}^{-1}(u_i, v_i, D_i)$$

(e) Fixed-Radius Robust Sphere Fitting



$$\| \mathbf{p}_i - \hat{\mathbf{c}}_k \|_2 \approx R \quad \text{R fixed}$$

$$L_{\text{pred}} = \| \hat{\mathbf{c}}_1 - \hat{\mathbf{c}}_2 \|_2$$

4. Physical Validation



Certified length

$$L_{gt}$$

$$e_L = \left| L_{\text{pred}} - L_{\text{gt}} \right|$$