

Figure 1: Single-null geometry of the 2D edge region simulated showing the coordinates used and the magnetic-field components; here  $I_p$  is the plasma current that generates the poloidal field  $B_x$ . The vector  $\mathbf{w}$  is in the so-called bi-normal direction  $\hat{\mathbf{i}}_{\parallel} \times \hat{\mathbf{i}}_y$  with  $\hat{\mathbf{i}}_{\parallel}$  being along the total  $\mathbf{B}$ -field.