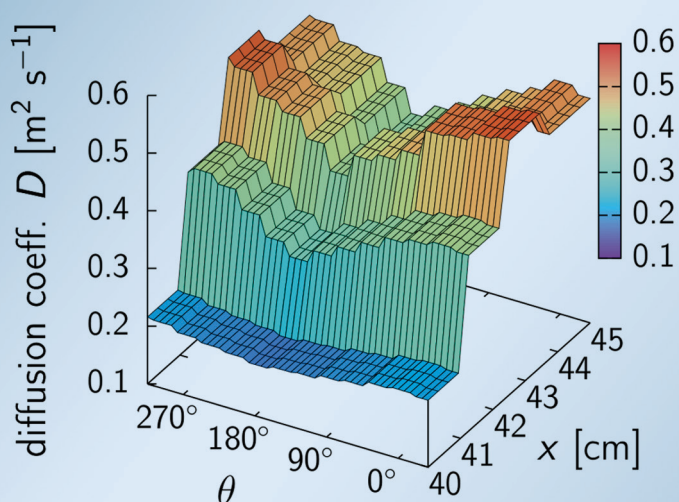


Development and Application of a Multiscale Model for the Magnetic Fusion Edge Plasma Region

Felix Martin Michael Hasenbeck



$$\frac{\partial n_0}{\partial t} + \nabla \cdot \left[n_0 \mathbf{u}_{\parallel 0} - D(\langle \tilde{n} \mathbf{v}_E \rangle) \nabla_{\perp} n_0 \right] = S_{0in}^{ic}$$

$$\left(\frac{\partial}{\partial t} + \mathbf{v}_E \cdot \nabla_{\perp} \right) \tilde{n} = -\mathbf{v}_E \cdot \nabla_{\perp} n_0 + \frac{T_{0e}}{e} \mathcal{K}(\tilde{n}) - n_0 \mathcal{K}(\phi) - n_0 B_0 (\nabla_{\parallel 0} + \tilde{\nabla}_{\parallel}) \left(\frac{u_{\parallel}}{B_0} - \frac{j_{\parallel}}{en_0 B_0} \right) + \gamma(\tilde{n})$$

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