Three-dimensional structuring and shock formation in the coronal streamer belt: a numerical study

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MODE 1: finds the complete HD or MHD spectrum. MODE 2: iterates to a particular eigenvalue.

MHD instabilities in wake configuration

Three variables: ideal Krause mode, ideal wave number and mode number (longitudinal) mode. In three-dimensional case unstable modes have two components, sinusoidal SCH, streamer particle density. ODE eigenvalue characteristic of the magnetic field. Various symmetries and symmetries are broken.

Summary

Wide spread about configurations in the instability region is linked to cases a high density instability with a low density wake, where the most stable mode is similar to the wake region, and the most unstable instability develops faster in this case.

Nonlinear simulations: VAC, 2.5D MHD

Initial perturbation: sinusuous modes, $K_x = 0.35, \lambda = 5 \times 10^{-3}$ and $K_y = 0.37, \lambda = 0.1067$. $\Delta m = 0.1$.

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Linear stability analysis: LEDAFLOW

Sinuous instability in wakes - current sheet configuration:

- The range of destabilized streamer wavelengths $K_y$ is almost 3D (A) and it decreases with increase of $K_x$.
- The range of destabilized streamer wavelengths $K_y$ is almost 2D (B) and it decreases with increase of $K_y$.
- Maxima in growth rate occur for one particular case, pure 2D perturbation. Magne

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