

ALFVÉN CONTINUUM IN STELLARATORS: GENERAL ANALYSIS AND SPECIFIC EXAMPLES

Ya. I. Kolesnichenko, H. Wobig¹, Yu. V. Yakovenko, J. Kiblinger¹

¹ *Max-Planck Institut für Plasmaphysik, IPP-EURATOM Association, Garching bei München, Germany*

The Alfvén continuous spectrum in three-dimensional toroidal magnetic configurations is analyzed. Alfvén continua in Wendelstein-line stellarators (Wendelstein 7-AS and the designed Helias reactor HSR4/18) are calculated with the code COBRA, and the principal gaps in the Alfvén continua in these devices are found. It is shown that the shape of the plasma cross section strongly affects the Alfvén spectrum. Peculiarities of the Alfvén continuum of low-shear configurations are discussed. The frequencies of the calculated gaps in the Alfvén continuum in W7-AS are compared with the frequencies of the experimentally observed plasma oscillations.