The design of two color interferometer on a field-reversed configuration plasma device

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Two color interferometer using a short wavelength far infrared laser is one of the most promising methods to measure the electron density in high density fusion devices such as HUST field-reversed configuration (HFRC) plasma device, which is immunity to mechanical vibration by using two colors. A five chords two color (CO_2/HeNe, 10.6/0.633μm) heterodyne laser interferometer has been designed to measure the line integral electron density along the mid-plane of HFRC device with a temporal resolution of 40MHz, which is generated by acousto-optic modulator (AOM). The 5 channels will provide profile data for the density. A single channel system will be established on HFRC device at the initial stage, and more channels will be added in the future.

References

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