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P3.029 Test of polarizers for the 105 GHz ECRH system on J-TEXT

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To match the electron cyclotron wave with the plasma efficiently, we design two polarizers including a linear polarizer and an elliptical polarizer for the 105 GHz electron cyclotron resonance heating system on J-TEXT. The linear polarizer is mainly used to change the rotation angle of the wave, while the ellipticity of the wave is regulated by the elliptical polarizer. The sinusoidal grooves are applied to improve power capability. The polarizers were manufactured, and we set up a low power test platform to measure polarization characteristics of the polarizers. To improve accuracy of measurement, the detector was calibrated with the standard wave source. The test results agree well with the design parameters. Therefore, we think the designed polarizers can meet requirements of the electron cyclotron resonance heating system on J-TEXT.

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