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Ultra-fast intensified frame images from an electron cyclotron resonance hydrogen plasma at 2.45 GHz: Some space distributions of visible and monochromatic emissions

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Abstract-

First results from an ultra-fast frame image acquisition diagnostic coupled to a 2.45 GHz microwave hydrogen discharge are presented. The plasma reactor has been modified to include a transparent doubled shielded quartz window allowing to viewing the full plasma volume. Pictures describing the breakdown process at 1 μs exposure time have been obtained for integrated visible light signal, Balmer-alpha, Balmer-beta lines, and Fulcher-band. Several different plasma emission distributions are reported. The distribution depends on the magnetic field configuration, incident microwave power, and neutral gas pressure.

Index Terms-

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