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Non-equilibrium Numerical Analysis of Microwave-supported Detonation Threshold Propagating through Diatomic Gas HIROYUKI SHIRAISHI, Daido University — Microwave-supported Detonation (MSD), one type of Microwave-supported Plasma (MSP), is considered as one of the most important phenomena because it can generate high pressure and high temperature for beam-powered space propulsion systems. In this study, I numerically simulate MSD waves propagating through a diatomic gas. In order to evaluate the threshold of beam intensity, I use the physical-fluid dynamics scheme, which has been developed for simulating unsteady and non-equilibrium LSD waves propagating through a hydrogen gas.

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