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## First Attempt to Describe Ponderomotive Effects in front of an ICRH launcher using HFSS

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ICRH is an attractive auxiliary heating system for future fusion reactors as it enables direct power deposition to the ions and does not suffer from high density cutoffs. However, ICRH launcher structure needs to be positioned close to the edge plasma to efficiently couple the launched power. This gives rise to enhanced plasma wall interactions near and far from the launching structure. One of these deleterious interactions is believed to be linked to the ponderomotive force, due to the strong electric field gradients in the plasma present near the antenna launcher.

Following the simple approach of the POND code described in [1], a first attempt to characterize the density perturbations expected in presence of ponderomotive force near an ICRH antenna launcher are investigated. A 1D and 3D version of the approach are implemented in the very simple case of a one-strap and two-strap shieldless antennas. Possible shortcomings and improvements in the model [1] are discussed.

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