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Towards a self-consistent approach to model cool hydrogen plasma emission MARK ZAMMIT, JAMES COLGAN, Los Alamos National Laboratory, JEREMY SAVAGE, DMITRY FURSA, IGOR BRAY, Curtin University, CHRISTOPHER FONTES, DAVID KILCREASE, PETER HAKEL, JEFFERY LEIDING, EDDY TIMMERMANS, Los Alamos National Laboratory — Cool (molecular) plasmas are ubiquitous throughout the Universe. Practically all opacity and emissivity studies of molecular plasmas are conducted utilizing data or codes taken from several different sources. To this end, we are developing a fully generalizable self-consistent approach to model cool hydrogen (H_2 and H_2^+) plasmas opacity and emissivity. Here we present results of cool hydrogen plasmas emission, and a preliminary investigation of the plasma effects in low-temperature hydrogen plasmas using an equation of state model.

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