Abstract Submitted
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Collisional radiative model for inert gases plasma through reliable electron impact excitation cross sections[1] SRIVASTAVA RAJESH, Indian Institute of Technology Roorkee — The inert gases are often added in trace amounts to various plasmas for the optical diagnostic purposes. To develop collisional radiative (CR) models for their plasmas at low temperature a large amount of reliable electron impact excitation cross section data are required [1]. The electron excitation is leading process but the data are in general not available. Our group has obtained such extensive data for Ar and Kr by using fully relativistic distorted wave (RDW) theory and demonstrated their applications in developing their corresponding CR plasma models [2]. Recently, we obtained similar new detailed cross section data for Ne and Xe and also developed their suitable CR models which will be presented. We utilize for our CR models the available recent OES measurements [3]. [1] J. B. Boffard *et al.*, *Adv. Atom. Molec. Opt. Phys.* **67**, 1, 2018 [2] R. K. Gangwar *et al.*, *Plasma Sources Sci. Technol.* **25**, 35025, 2016 [3]T. Czerwiec and D.B. Graves, *J. Phys. D. Appl. Phys.* **37**, 2827, 2004.

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