

**RADIATIVE HEAT TRANSFER MODELING IN HIGH TEMPERATURE
PARTICULATE SYSTEMS**

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ABSTRACT. Radiation plays a significant role in numerous gas-solid processes such as fluidized beds, heterogeneous combustion systems and solar absorbers-reactors. This paper presents a review of research studies in the three previous domains with emphasizing the contributions of authors. The validity of the approximate solutions of RTE for modeling radiation heat transfer in dense and dilute particulate media is discussed in the view of engineering applications. Moreover the influence of anisotropy of diffusion and spectral variation of solid and gas properties on radiation field is analyzed in order to conclude on the necessary level of description needed to physically describe heat transfer in participating solid-gas media.