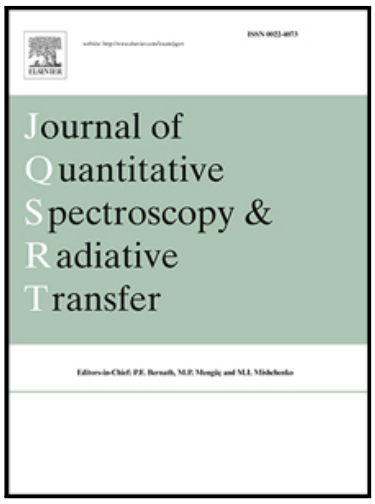

Scattering of partially coherent radially polarized beams upon a deterministic medium

Xun Wang , Zhirong Liu , Kelin Huang

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Highlight:

- The scope of scattering theory was expanded to analyze the scattering of partially coherent radially polarized beams upon a deterministic media for the first time.
- Influence of several factors on the scattered spectral distribution in the far zone has been examined in detail.
- It is shown that the distribution of normalized scattered spectral density would be significantly influenced by δ, ω_0, and σ_R; the scattered spectral degree of coherence would be influenced by δ, ω_0, and φ; however, the scattered spectral degree of polarization would invariably maintain unit even though the parameters mentioned above are different.
- Results obtained here may further enrich the scattering theory and find applications in remote sensing, medical diagnosis, and obtaining the structure information of a deterministic medium.