

Accepted Manuscript

Humblet's angular momentum decomposition applied to radiation torque on metallic spheres using the Hagen-Rubens approximation

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PII: S0022-4073(18)30468-0
DOI: <https://doi.org/10.1016/j.jqsrt.2018.08.019>
Reference: JQSRT 6191



To appear in: *Journal of Quantitative Spectroscopy & Radiative Transfer*

Received date: 29 June 2018
Revised date: 23 August 2018
Accepted date: 23 August 2018

Please cite this article as: Philip L. Marston , Humblet's angular momentum decomposition applied to radiation torque on metallic spheres using the Hagen-Rubens approximation, *Journal of Quantitative Spectroscopy & Radiative Transfer* (2018), doi: <https://doi.org/10.1016/j.jqsrt.2018.08.019>

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Highlights

- Electromagnetic torque on spheres in circularly polarized illumination reviewed
- Humblet-decomposition applied to spin and orbital angular momentum of scattered radiation
- Spin angular momentum of scattered radiation related to Stokes parameters
- Numerical examples from Lorenz-Mie theory for metallic spheres using the Hagen-Rubens approximation
- Orbital angular momentum of scattered radiation can exceed spin angular momentum in Mie theory
- Development of Hagen-Rubens approximation for the complex refractive index of metals reviewed

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