



# The angular spectrum representation of vectorial laser beams

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The angular spectrum of a vectorial laser beam is expressed in terms of an intrinsic coordinate system instead of the usual Cartesian laboratory coordinates. This switch leads to simple, elegant and new expressions such as for the angular spectrum of the Hertz vector corresponding to the electromagnetic fields. As an application of this approach, we consider axially symmetric vector beams, showing non-diffracting properties of these beams, without invoking the paraxial approximation. Further, we indicate the relevance of the method for analyzing nonparaxial resonators, such as microresonators

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