



## Structured ray-wave vector vortex beams in multiple degrees of freedom from a laser: erratum

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We recently demonstrated a new multi-dimensional vectorially structured light beam from a simple laser cavity [1]. It has subsequently come to our attention that the theoretical background we provided in Section 1 of the supplementary material may not have been appropriately cited and thus interpreted as original work. Here we wish to make clear that this supplementary material theory on ray-wave duality in frequency-degenerate cavities is a venerable topic, dating back more than 50 years [2] as are SU(2) coherent states and their relevance to optics [3], with the two fields finding commonality over the past decade in the context of lasers (see for example Refs. [4–8] and references therein). Section 1 of our supplementary material is based substantially on Refs. [3–6], which we used to provide a background for the reader, and we regret if the manner in which we cited this body of work did not make this clear. The extensive references in [1] were meant to convey the fact that the theoretical foundation for ray-wave duality lasers is well known in the community.

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