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Goldenberg et al.

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(54) **AUTO FOCUS AND OPTICAL IMAGE STABILIZATION WITH ROLL COMPENSATION IN A COMPACT FOLDED CAMERA**

(58) **Field of Classification Search**
CPC H04N 5/23248; G03B 3/10; G03B 13/36; G03B 17/17; G03B 27/64; G03B 2205/00-0092; G02B 7/64-646
See application file for complete search history.

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H04N 5/232 (2006.01)
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(57) **ABSTRACT**

Folded digital camera module comprising an optical path folding element (OPFE) for folding light from a first optical path with a first optical axis to a second optical path with a second optical axis perpendicular to the first optical axis, an image sensor, and a lens module carrying a lens with a symmetry axis parallel to the second optical axis. The camera module is adapted to perform optical image stabilization (OIS) involving at least one tilt motion of the OPFE tilt around an axis such that the OPFE tilt creates an image Roll movement and a shift movement, the OPFE tilt-created image Roll movement compensating for a folded camera

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