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Title:A method of suppressing mode competition in a coaxial localized-defect Bragg resonator operating in a higher-order mode

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Abstract:A coaxial localized-defect Bragg resonator has potential applications in high-power CARM oscillators. When it operates at sub-terahertz and terahertz frequencies, a higher-order mode is always required so as to get enough large geometry size. Analysis shows that higher-order mode operation may cause undesired mode competition due to the localized defect coupling the operating mode with its neighboring modes. A simple but efficient method is presented to solve the mode competition problem, where Hamming windowing-function distribution is separately applied to both sides of the localized defect. © 2011 American Institute of Physics.