375. Title:Performance analysis of an open-loop resonator loaded terahertz microstrip antenna
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Abstract:In this paper, an enhanced electrical performance of the open-loop loaded microstrip patch antenna at terahertz frequency has been investigated. The proposed antenna is designed to radiate at frequencies in the range of 0.50.7 THz with high gain and radiation efficiency. The effect of various substrate parameters on the electrical performance of the proposed antenna has been analyzed and simulated. The simulation has been performed using the CST Microwave studio, a commercial simulator based on finite integral technique. The directivity and radiation efficiency of the proposed antenna is 22.58 dBi and 94.50%, respectively, at 600 GHz. Further, the simulated results have been compared with Ansoft HFSS, a commercially available simulator based on the finite element method. We have also compared this proposed analytical result with reported literature with scale down approach.