

Amorphous Ag-YBaCuO Thin Films for un-cooled Bolometer

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We have studied silver (Ag) doped amorphous YBaCuO thin films for resistive bolometer operating at room temperatures. The Ag-YBaCuO films were deposited on oxidized Si substrates by off-axis rf sputtering at ambient temperature. Temperature coefficient of resistance (TCR) with values of up to 4% K⁻¹ were observed in both of Ag-doped and undoped films. The key role of Ag-doping is to reduce the resistivity of doped film as compared with undoped one. The low resistivity makes it possible to decrease the noise of the bolometer and to supply a large bias current to the bolometer to get higher responsivity

keywords : Ag-YBaCuO films, Bolometer, low resistivity