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Statistical and fractal features of nanocrystalline AZO thin films

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Highlights (for review)

- Statistical and fractal analysis of AZO thin films is investigated.
- Conductivity of thin films has an scaling law with roughness as \sigma ~ *W* ^6.
- Skewness and kurtosis calculation demonstrates the isotropic nature of AZO rough surfaces.
- Two dimensional MFDFA analysis illustrates the multifractality scaling that multifractality increases with thickness and different correlations are responsible for it.
- Radius of contour loops is introduced as a new statistical parameter which is linearly related to the grain size and could be useful for calculation of it.