




## Functional disorder in complex materials.

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Structural and electronic disorder at nano and mesoscale plays an important role in the functionality of complex materials. Here local heterogeneity and weak interactions developing between structural units cause dynamical spatio-temporal configurations with dynamical correlated disorder. Visualizing these configurations is fundamental for understanding the physical properties of complex matter and requires advanced experimental methodologies. We discuss the connections between the dynamical correlated disorder and functionality in different fields from material science to biology.

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