Scaling
in earthquake models with inhomogeneous damage[1] RACHELE
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— We study the scaling of earthquake models that are variations of
Olami-Feder-Christensen and Burridge-Knopoff models, in order to explore the effect of spatial inhomogeneities on earthquake-like systems
when interaction ranges are long, but not necessarily longer than the
distances associated with the inhomogeneities of the system. For long
ranges and without inhomogeneities, such models have been found to
produce scaling similar to GR scaling found in real earthquake systems.
In the earthquake models discussed here, damage is distributed inhomogeneously throughout and the interaction ranges, while long, are not
longer than all of the damage length scales. We find that the scaling
depends not only on the amount of damage, but also on the spatial
distribution of that damage.

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