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Jason Atnip* (j.atnip@unsw.edu.au), **Gary Froyland**, **Cecilia Gonzalez-Tokman** and **Sandro Vaienti**. *Thermodynamic Formalism for Random Piecewise-Monotone Maps of the Interval*.

In this talk we develop a quenched thermodynamic formalism for random dynamical systems generated by countably branched, piecewise-monotone mappings of the interval that satisfy a random covering condition. We consider a general random contracting potential (in the sense of Liverani-Saussol-Vaienti) and we prove there exists a unique random conformal measure and a unique random equilibrium state for this potential. Further, we prove quasi-compactness of the associated transfer operator cocycle and exponential decay of correlations for the unique equilibrium state. We will give several examples of our general theory. In particular, our results apply to random beta-transformations, random Gauss-Renyi maps, and random dynamics of non-uniformly expanding maps such as intermittent maps and maps with contracting branches. (Received September 15, 2020)