

# Statistical stability for equilibrium states

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## Abstract

We consider multimodal interval maps with at least polynomial growth of the derivative along the critical orbit. For these maps Bruin and Todd showed the existence and uniqueness of equilibrium states for the potential  $\varphi_t : x \mapsto -t \log |Df(x)|$ , for  $t$  close to 1. We show that for certain families of this type of maps the equilibrium states vary continuously in the weak\* topology, when we perturb the map within the respective family. Moreover, in the case  $t = 1$ , when the equilibrium states are absolutely continuous with respect to Lebesgue, we show that the densities also vary continuously in the  $L^1$ -norm.

**Keywords:** Statistical stability; equilibrium states.

## References

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