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*Spherical amoebas and spherical tropicalization*

(This is a report on joint work in progress with Johannes Hofscheier and Kiumars Kaveh. )

Let  $X$  be a subvariety of the  $n$ -dimensional complex torus. It is well-known in tropical geometry that the “amoebas” of  $X$  limit to the tropicalization of  $X$ . It is natural to ask whether there is a non-abelian analogue of this phenomenon. We take the point of view that an answer should be phrased in the setting of (spherical homogeneous spaces and) spherical varieties, which can be thought of as non-abelian analogues of toric varieties. Indeed, in 2016, Kaveh and Manon defined a “spherical tropicalization map” for spherical homogeneous spaces. Thus we can ask: for a subvariety  $Y$  of a spherical homogeneous space, is there a (family of) spherical amoebas which limit to the image of  $Y$  under the spherical tropicalization map, i.e.  $\text{strop}(Y)$ ? I will explain the definitions necessary to state the question precisely, and discuss some preliminary results pointing to an answer.