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Simon Telen* (simon.telen@kuleuven.be). *Cox homotopies: tracking homogeneous coordinates on toric varieties.*

In homotopy algorithms for solving systems of polynomial equations, it is standard practice to work in (multi-)projective space to avoid diverging paths. At each point on a path, a solution is represented by a set of (multi-)homogeneous coordinates. In this talk, we investigate how this approach and many of its advantages generalize to the setting of polyhedral homotopies, where the natural compact solution spaces are more general toric varieties. This is joint work with Timothy Duff, Elise Walker and Thomas Yahl. (Received September 13, 2020)