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Grégoire Naisse*, gregoire.naisse@gmail.com, **Jens Niklas Eberhardt**, mail@jenseberhardt.com, and **Arik Wilbert**, arik.wilbert@uga.edu. *Real Springer fibers and odd Khovanov homology.*

The main ingredient for Khovanov link homology is a certain TQFT associated to the Frobenius algebra $\mathbb{Z}[X]/(X^2)$. It is known that this TQFT can be obtained from the geometry of the complex projective line $\mathbb{C}P(1)$. Furthermore, Khovanov homology can be extended to tangles through the use of arc algebras. These algebras can be constructed as convolution algebras over the components of the complex two-row Springer fibers. In another direction, Khovanov homology can be deformed to give an odd version (basically replacing tensors product with exterior ones). I'll explain how this odd Khovanov homology is related to the geometry of real spaces instead of complex ones. This is a joint work with Jens Niklas Eberhardt and Arik Wilbert. (Received August 24, 2020)