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*Plücker inequalities for weakly separated coordinates in totally nonnegative Grassmannian*

We show that the partial sums of the long Plücker relations for pairs of weakly separated Plücker coordinates oscillate around 0 on the totally nonnegative part of the Grassmannian. Our result subsumes the classical oscillating inequalities by Gantmacher–Krein (1941) and recent results on totally nonnegative matrix inequalities by Fallat–Vishwakarma (2023). In fact we obtain a characterization of weak separability, by showing that no other pair of Plücker coordinates satisfies this property.