

The Likelihood Correspondence

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An arrangement of hypersurfaces in projective space is SNC if and only if its Euler discriminant is nonzero. We study the critical loci of all Laurent monomials in the equations of the smooth hypersurfaces. These loci form an irreducible variety in the product of two projective spaces, known in algebraic statistics as the likelihood correspondence and in particle physics as the scattering correspondence. We establish an explicit determinantal representation for the bihomogeneous prime ideal of this variety.

References

- [1] Kahle, T., Schenck, H., Sturmfels, B., Wiesmann, M. (2025). The Likelihood Correspondence. arXiv preprint arXiv:2503.02536.