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Distribution of Topological Defects on Axisymmetric Surface

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Abstract: We propose a general method of determining the distribution of topological defects on axisymmetric surface, and study the distribution of topological defects on biconcave-discoid surface, which is the geometric configuration of red blood cell. There are three most possible cases of the distribution of the topological defects on the biconcave surface: four defects charged with 1/2, two defects charged with +1, or one defect charged with 2. For the four defect charged with 1/2, they sit at the vertices of a square imbedded in the equator of biconcave surface.

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