

## **Inequalities for Legendre polynomials and applications in information potential**

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The classical orthogonal polynomials play an important role in applications of mathematical analysis, spectral method with applications in fluid dynamics and other areas of interest. This work is devoted to the orthogonal polynomials. Bounds of Legendre polynomials are obtained in terms of inequalities. Also, entropies associated with discrete probability distributions is a topic considered. Bounds of the entropies which improve some previously known results are obtained.