

GEOMETRIC INEQUALITIES INVOLVING TWO SIMPLEXES

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Abstract. We establish some geometric inequalities on the inradius and circumradius of two n -dimensional simplexes.

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REFERENCES

- [1] LENG GANGSONG, *Some inequalities involving two simplexes*, Geom. Dedicata **66** (1997), 89–98.
- [2] M. S. KLAMKIN, *Inequality for a simplex*, SIAM. Rev. **27** (4) (1985).
- [3] D. S. MITRINOVIĆ, J. E. PEČARIĆ AND V. VOLENEC, *Recent advances in geometric inequalities*, Kluwer Acad. Publ., Dordrecht, Boston, London, 1989.
- [4] D. S. MITRINOVIĆ, *Analytic inequalities*, Springer–Verlag, Berlin, Heideberg, New York, 1970.
- [5] F. ERIKSSON, *The law of sines for tetrahedra and n -simplexes*, Geom. Dedicata **7** (1978), 71–80.
- [6] YANG SHIGUO AND WANG JIA, *An inequality for n -dimensional sines of vertex angles of a simplex with some applications*, J. Geom. **54** (1995), 198–202.
- [7] YANG SHIGUO, *Some inequalities on areas of bisection planes of dihedral angles of a simplex*, Geom. Dedicata **62** (1996), 161–165.
- [8] ZHANG HANFAN, *The high-dimensional generality and improvement of a geometric inequality*, (in Chinese), J. of Xuzhou Teachers College **14** (1996), 11–14.