

## TWO INEQUALITIES FOR VOLUMES OF SIMPLEXES WITH APPLICATIONS

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*Abstract.* In this paper, we study the problems of volumes of  $n$ -dimensional simplexes in the Euclidean space  $E^n$  by the method of barycenter coordinate. An inequality for volumes of  $n$ -dimensional simplex and its escenters simplex is established, and two inequalities for volumes of two simplexes are established. As the application of the inequalities, we obtain generalization of the  $n$ -dimensional Euler inequality.

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