TRIANGULATIONS FOR SIMPLICIAL ALGORITHMS

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Triangulations are used in simplicial algorithms to find the fixed points of continuous functions or upper semicontinuous mappings. Applications arise from economics and optimization. The performance of simplicial algorithms is very sensitive to the triangulations used.

Variable dimension fixed point algorithms allow to reduce significantly time needed for computation. Different simplcial and cone subdivisions were invented for this purpose by different authors [1], [3, 4, 5, 6]. Basic demands to triangulations are the following:

- simplices need not to be prolate and

- rules for transition to neighbouring simplices must be simple.

Basic result of this notes relies on the following observations:

- most of triangulations used in simplicial algorithms correspond to fundamental regions of Lie groups and affine Lie groups of the types A_n, B_n, C_n, D_n [2],

- fundamental regions of Lie groups and affine Lie groups of the types E_6, E_7, F_4 and G_2 can be used as constructing blocks in simplicial algorithms,

- fundamental regions of Lie groups and affine Lie groups of the types $A_n, B_n, C_n, D_n, E_6, E_7, F_4$ and G_2 can also be used as constructing blocks in simplicial algorithms.

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