

COMPUTING PARAMETRIZATIONS OF THE BISECTOR OF TWO SURFACES

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ABSTRACT. Bisectors are geometric constructions with applications in Tool path generation, Motion planning, NC-milling, etc. For two given low degree parametric surfaces, it will be presented a new approach to determine an algebraic representation of their bisector by using the so-called generalized Cramer rules. The new introduced approach allows to easily obtain a parametrization of the quadric-plane, quadric-cylinder and torus-cylinder bisectors, which is rational in most cases. In the remaining cases the parametrization involves one square root which is well-suited for approximation purposes.

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