

Title: Properties and applications of low degree surfaces

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Abstract: My thesis "Properties and applications of low degree surfaces" deals mainly with properties of two quadrics. We introduce so called canonical forms of two quadrics and classification of intersection curve of two quadrics. There are used index and signature sequence to obtain classification of intersection curve of two quadrics. These sequence can determine the number of component of the intersection curve, their algebraic degrees and singularities. Our work also contains many examples with pictures. One part of the thesis also presents possible application of intersection curve of two quadrics in practice. This thesis also contains an enclosed CD, with the thesis in an electronic form and the source files of all pictures in the thesis.

Keywords: Intersection curve, Quadric surface, index function, signature sequence