

# Projection onto a level set of a quadratic function revisited

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We propose an iterative algorithm to project a point onto a level set of a quadratic function. The Hessian of the quadratic function just needs to be symmetric. The spectral decomposition is performed only once to verify existence of solution and, in case of success, to set the initial direction. The proposed algorithm was numerically tested for quadratic functions with distinct symmetric Hessians, showing great potential in applications, such as in computer graphics and alternating projections.