

The main goal of the work is to summarize and generalize a method for solving quadratic Diophantine equations. We transform the problem of finding the solution of Diophantine equations to finding the intersections of lines and a given quadric. The theory works over a general field and is able to solve equations leading to quadrics of  $n$  variables. We then apply the theory to solve some examples, namely the search for Pythagorean triplets over Gaussian integer and the equation leading to the hyperboloid, where we use our generalization.