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A main question in the arithmetic theory of quadratic forms is the representation problem: given an integral quadratic form  $f$ , for which integers  $a$  does there exist a solution to  $f(x)=a$ ? Attempts to answer this question have led to the study of many different types of quadratic forms. We call a positive definite quadratic form regular if whenever there is a solution over the  $p$ -adic integers for every prime  $p$  then there exists a solution over the rational integers. We can strengthen this notion of regularity to strict regularity by demanding that the solutions are primitive, i.e. the coordinates of the solutions are coprime. These notions of regularity can be extended to the study of integral Hermitian forms. I will discuss my thesis work on integral quadratic forms which satisfy a higher dimensional analogue of the strict regularity condition, and also present a recent result, joint with J. Liu, regarding the finiteness of strictly regular ternary integral Hermitian forms. (Received September 20, 2016)