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*Combining Triple Diagonal Forms.*

Let  $R$  be a Euclidean domain with quotient field  $F$  of characteristic not equaling 2. Jacobi showed that every symmetric  $R$ -matrix is congruent over  $R$  to a matrix in triple diagonal form. Since it is generally not possible to fully diagonalize these matrices, it is of importance to gain as much control as possible of this triple diagonal form. Two different refinements have since been made to Jacobi's triple diagonal form. This talk discusses these separate refinements and the combining of them. (Received September 22, 2010)