1020-39-207 **Kelly B Houston*** (kbhous01@louisville.edu), Department of Mathematics, University of Louisville, Louisville, KY 40292, and **Prasanna K Sahoo** (sahoo@louisville.edu), Department of Mathematics, University of Louisville, Louisville, KY 40292. *On two functional equations and their solutions.*

In this talk we present the solution $f : \mathbb{R}^2 \to \mathbb{R}$ of the equation $f(ux - vy,\, uy - vx) = f(x, y) + f(u, v) + f(x, y)\, f(u, v)$ for all $x, y, u, v \in \mathbb{R}$ without any regularity assumption. The solution of the functional equation $f(ux + vy,\, uy - vx) = f(x, y) + f(u, v) + f(x, y)\, f(u, v)$ will also be presented. The methods of solution of these equations are simple and elementary. Furthermore, the solution of a more generalized functional equation will be discussed. These equations arise in connection with the characterizations of determinant and permanant of two-by-two symmetric matrices. (Received August 28, 2006)