1036-53-150 **William Wylie*** (`wylie@math.ucla.edu`), 520 Portola Plaza, Department of Math, UCLA, Los Angeles, CA 90095. *On the classification of gradient Ricci solitons.*

The Ricci soliton equation arises naturally as a generalization of the Einstein equation and in the study of Ricci flow. The work of Hamilton, Ivey, and Perelman gives a complete classification in dimension 3 of shrinking gradient Ricci solitons. We will discuss several different conditions on curvature and symmetry that allows us to classify these objects in higher dimensions. As a result we will also give a new proof of the three dimensional classification. (Received January 21, 2008)