

The invention discloses the use of Raman spectroscopy to analyze one or more process streams (5) of a urea synthesis production plant, where urea is synthesised from ammonia and carbon dioxide at high pressure (100-300 bar) and high temperature (50-250 °C). The radiation generated by the Raman scattering is analyzed to determine the concentration of components such as urea, ammonia and carbon dioxide in the process streams (5). A logic system implemented in a plant control unit (1) generates signals to target plant actuators to optimize the operation.