1048-34-342 **Pablo Moisset de Espanes*** (pmoisset@ing.uchile.cl), Blanco Encalada N 2120, 5 piso, Santiago, Chile. *On the nature of polynomial conservation laws in reversible reaction networks.* Preliminary report.

Dynamical systems arising from the modeling of chemical reactions have been studied for over a century. In 1864 Waage and Guldberg introduced the now well known law of mass action. Later on, Horn, Jackson, Feinberg and others generalized the idea to reaction networks. In this talk, we will characterize polynomial conservation laws in reversible networks. We can show that all linear conservations laws are independent of reaction rates, i.e. they depend only on the "stoichiometry" of the network. We can also show that if the network has the property of "detailed balance", all polynomial conservation laws belong to the ideal generated by the linear laws. (Received February 10, 2009)