1049-46-141 **George Alver Willis*** (george.willis@newcastle.edu.au), Mathematical and Physical Sciences, Building V, Callaghan, NSW 2308, Australia. *Contraction subgroups of locally compact groups.*

The *contraction group* of an element, x, in a locally compact group, G, is

$$U_x := \{g \in G \mid x^n g x^{-n} \to 1 \text{ as } n \to \infty\}.$$

Contraction groups play a role in representation theory through the *Mautner phenomenon*, which is the observation that every point, ξ, that is fixed by x is also fixed by every element of the contraction group of x. Contraction subgroups of Lie groups are necessarily nilpotent. The talk will describe what is known about contraction subgroups of totally disconnected groups. (Received March 02, 2009)