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**Geoff R Goehle\*** ([grgoehle@email.wcu.edu](mailto:grgoehle@email.wcu.edu)), 452 Stillwell Hall, Dept. of Mathematics and Computer Science, Western Carolina University, Cullowhee, NC 28723. *The Spectrum of Groupoid  $C^*$ -algebras.*

Groupoids are very general objects which can be constructed from, among other things, actions of groups on topological spaces. Any groupoid  $G$  contains a group bundle  $S$  called the stabilizer bundle. In the transformation group case the fibres of this bundle are the isotropy subgroups associated to the group action. When  $S$  has a Haar system and the orbits of the groupoid (or associated group action) are closed then we can use the irreducible representations of the fibres of the stabilizer bundle to understand the representations of the groupoid. Specifically the spectrum of the groupoid  $C^*$ -algebra  $C^*(G)$  is homeomorphic to the orbit space arising from a natural action of  $G$  on the spectrum of  $C^*(S)$ . In the transformation group case this allows us to describe the irreducible covariant representations of the group action in terms of the representations of the isotropy groups. (Received August 17, 2011)