1046-37-1285   **Ionut Chifan*** (ichifan@math.ucla.edu), 1243 Federal Ave, Apt #108, Los Angeles, CA 90025, and **Adrian Ioana** (aioana@caltech.edu), Los Angeles, CA. *Ergodic subequivalence relations induced by a Bernoulli action.*

In this talk we will discuss the *deformation/ spectral gap* rigidity principle in von Neumann algebras which was originally introduced by S. Popa, and we derive some applications to ergodic theory. For example, we prove the following result: Let Γ be a countable group and denote by $\mathcal{S}$ the equivalence relation induced by a Bernoulli action $\Gamma \curvearrowright [0,1]^\Gamma$ where $[0,1]^\Gamma$ is endowed with the product Lebesque measure. Then for any subequivalence relation $\mathcal{R}$ of $\mathcal{S}$ there exists a partition $\{\mathcal{X}_i\}_{i \geq 0}$ of $[0,1]^\Gamma$ with $\mathcal{R}$-invariant measurable sets such that $\mathcal{R}|_{\mathcal{X}_0}$ is hyperfinite and $\mathcal{R}|_{\mathcal{X}_i}$ is strongly ergodic for every $i \geq 1$. (Received September 15, 2008)

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