1063-53-204   **Christina Sormani** and **Guofang Wei***, Department of Math, UCSB, Santa Barbara, CA 93106. *The Covering Spectrum.*

We introduce the covering spectrum which measure the sizes of holes of a metric space or a Riemannian manifold. The spectrum is related to the length spectrum and Laplacian spectrum. We will study its behavior under Gromov-Hausdorff convergence. For non-compact space, we introduce the cut-off covering spectrum. (Received August 16, 2010)