Leray's theorem

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Let $\mathcal{F}$ be a sheaf on a topological space X and $\mathcal{U} = \{U_i\}$ an open cover of X. If $\mathcal{F}$ is http://planetmath.org/AcyclicSheaf acyclic on every   of elements of $\mathcal{U}$, then

$$\check{H}^q(\mathcal{U}, \mathcal{F}) = \check{H}^q(X, \mathcal{F}),$$

where $\check{H}^q(\mathcal{U}, \mathcal{F})$ is the q-th http://planetmath.org/CechCohomologyGroup2 Cech cohomology group of $\mathcal{F}$ with respect to the open cover $\mathcal{U}$.

References

[1] Bonavero, Laurent. *Cohomology of Line Bundles on Toric Varieties, Vanishing Theorems.* Lectures 16-17 from "Summer School 2000: Geometry of Toric Varieties."