A Characteristic-Index Inequality for Closed Embeddings of Locally Compact Groups

The characteristic index of a locally compact connected group $G$ is the non-negative integer $d$ for which we have a homeomorphism $G \cong K \times \mathbb{R}^d$ with $K$ maximal compact in $G$. We prove that the characteristic indices of closed connected subgroups are dominated by those of the ambient groups.

**Keywords**: Lie group, locally compact group, characteristic index, dense embedding, Lie algebra, homology, fibration, spectral sequence.

**MSC**: 22D05, 22E15, 22E60, 57T15, 55T10.