

Twisting cochains and local formulas for the characteristic classes of smooth principal bundles

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In this talk I will describe a simple algorithm that expresses Chech cochains which correspond to the characteristic classes of a smooth principal $GL(n)$ -bundle in terms of the glueing functions, that define this bundle. Our approach is based on the classical notion of the twisting cochain, as it appeared in the original Brown's paper (1959). It turns out that the similar formulas, due to Bott (1979), can be regarded as a particular case of our construction.