

Spectral Sequences - I.
Subhajit Chanda, IITM

Abstract: Spectral sequences were invented by Jean Leray , as a prisoner of war during World War II , in order to compute the homology (or cohomology) of a chain complex. They were made algebraic by Koszul in 1945. In this series, we will begin by discussing some definitions and terminologies related to spectral sequences. Then we will see the Leray-Serre spectral sequence and some applications of it, spectral sequence of a filtration, spectral sequence of a double complex and Grothendieck spectral sequences. We will also discuss about the convergence of spectral sequences and at the end we study exact couples.

Pre-requisites :

No specific background required, but familiarity with homological algebra will be very helpful.