

ABSTRACT. Given a profinite group G with finite virtual cohomological dimension, let $\{X_i\}$ be a tower of discrete G -spectra, each of which is fibrant as a spectrum, so that $X = \operatorname{holim}_i X_i$ is a continuous G -spectrum, with homotopy fixed point spectrum X^{hG} . The E_2 -term of the descent spectral sequence for $\pi_*(X^{hG})$ cannot always be expressed as continuous cohomology. However, we show that the E_2 -term is always built out of a certain complex of spectra, that, in the context of abelian groups, is used to compute the continuous cochain cohomology of G with coefficients in $\lim_i M_i$, where $\{M_i\}$ is a tower of discrete G -modules.