Impact of the Spin Density Wave Order on the Superconducting Gap of Ba(Fe$_{1-x}$Co$_x$)$_2$As$_2$ LUDIVINE CHAUVIERE, YANN GALLAIS, MAXIMILIAN CAZAYOUS, MARIE-AUDE MEASSON, ALAIN SACUTO, Laboratoire Materiaux et Phenomenes Quantiques UMR 7162 CNRS Universite Paris Diderot, Paris, France, DOROTHEE COLSON, ANNE FORGET, CEA Saclay IRAMIS, SPEC CNRS URA 2464, Gif-sur-Yvette, France, SQUAP TEAM, SPEC COLLABORATION — We report a doping dependent electronic Raman scattering measurements on iron-pnictide superconductor Ba(Fe$_{1-x}$Co$_x$)$_2$As$_2$ single crystals. The B$_{2g}$ Raman spectrum at optimal doping is consistent with a strongly anisotropic gap on the electron pocket. Upon entering the coexistence region between superconducting (SC) and spin-density-wave (SDW) orders, the effective pairing energy scale is strongly reduced. Our results are interpreted in terms of a competition between SC and SDW orders for electronic states at the Fermi level. Our findings advocate for a strong connection between the SC and SDW gaps anisotropies which are both linked to interband interactions.