Super Dual Auroral Radar Network (SuperDARN) is designed to map high-latitude ionospheric plasma circulation in both hemispheres. The network utilises line-of-sight Doppler velocities from radars with overlapping fields to reconstruct horizontal movements of the plasma. This work aims at expanding SuperDARN's arsenal of diagnostic tools for studying magnetosphere-ionosphere interactions. Our approach is based on (a) critical analysis and modification of operation modes and data processing algorithms and (b) exploiting extra information parameters of the radar echoes based on a detailed analysis of processes contributing to formation of the ionospheric and ground scatter signals. We will present and discuss in detail examples illustrating potential areas of diagnostic expansion which include ULF waves, particle precipitations, parameters of regular ionospheric layers, etc.