The dynamics of the outer Van Allen radiation belt is strongly influenced by the presence of electromagnetic whistler-mode waves. Recent theoretical results and computer simulations have shown that whistler-mode chorus emissions have the capacity to enhance the fluxes of electrons at the time scales on the order of one day. These studies also demonstrate the need for experimental data on propagation properties of chorus, especially on the angle between the wave vector and the background magnetic field. We show results of our systematic investigation of propagation properties of whistler-mode chorus from a large database of measurements of the Cluster mission, operating since 2001. After 2005, the orbit of Cluster changed and we can analyze chorus in a large range of different L-shells. We use measurements of the WBD and STAFF-SA instruments to characterize propagation and spectral properties of chorus. We show that the wave vectors can be found not only parallel to the magnetic field lines, as most theoretical studies assume, but also propagating obliquely at large angles to the background magnetic field.