One of the greatest puzzles of the modern science is the observed unbalance between matter and antimatter in the universe. The puzzle is closely linked to the violation of so called charge-parity (CP) symmetry. In particular, this symmetry assures that particles known as baryons behave exactly like their antimatter counterparts. Baryons are family of particles whose best-known members are the protons and neutrons that make up all the matter in the universe. The crucial property of baryons which makes them the matter building blocks is their fractional spin, a quantum property which allows the ground state baryons to have two possible polarization states. Any violation of CP symmetry would imply that the laws of physics are not the same for matter and antimatter. The Standard Model (SM) of particle physics predicts that a tiny amount of CP violation exists but is not sufficient to explain the overwhelming excess of the matter in the universe. Therefore, other CP violation sources must contribute. Here, we plan to use a novel method to study CP symmetry for baryons containing *strange* quark, where the violation was never observed. The method uses baryon-antibaryon pairs produced in an electron-positron annihilation at the Beijing Electron Positron Collider (BEPCII). The baryons are studied using BESIII detector. The states of the baryons produced in such annihilations are correlated and their spins are polarized as recently observed for the first time. With the present project a novel method for the CP tests will be developed to be used at BESIII and at foreseen in the nearest future experimental facilities.