The Double π^0 and ω-MESON Photoproduction at Graal

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Abstract

The double π^0 and ω-meson photoproduction have been measured at GRAAL. The total and differential cross sections and the beam asymmetry were deduced. In the double π^0 channel, the total cross section is dominated by two peaks at 0.7 and 1.1 GeV of beam energy, the second one having been seen for the first time. The interpretation of the double π^0 channel was performed with Laget model using a few diagrams mainly built on the excitation of P_{11} and D_{13}. In the ω-meson channel, a bump is observed near threshold, originating from nucleon resonance excitation.