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THEORETICAL STUDIES ON PION PHOTOPRODUCTION ON DEUTERONS

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\documentclass{article} \usepackage{amssymb,amsmath,gensymb} \usepackage{graphicx,setspace} \usepackage[affil-it]{authblk} \usepackage{xcolor,tikz,fancyhdr}

\begin{document}

\author{Venkataramana Shastri\thanks{venkataramana.shastri@gmail.com}, Aswathi V and S P Shilpashree} \title{Theoretical Studies on Pion Photoproduction on Deuterons}

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\maketitle

\section{Abstract}

The study of nuclear reactions between elementary particles and atomic nuclei plays an important role in understanding the interdisciplinary area

of Nuclear Physics and Particle Physics.

The study of photoproduction of mesons has a long history going back to 1950's.

It was in the next decade studies on photoproduction of π meson on deuteron started.

Since then coherent and incoherent photoproduction of π meson on deuteron have been studied theoretically and experimentally.

The study of photoproduction of pions describe the coupling among photon, meson and nucleon fields and also gives information about strong interactions

that indirectly hold the nucleus together.

A thorough investigation of the photoproduction process is firmly believed to give first hand information on two important aspects, one being the threshold of

 π photoproduction amplitude and the other being propagation of low-energy pions in nuclear medium. The purpose of the present contribution is to theoretically study pion photoproduction on deuterons using model independent

irreducible tensor formalism developed earlier to study the photodisintegration of deuterons.\cite{gr2006-1}

\begin{thebibliography}{}

\bibitem{gr2006-1}G Ramachandran, S P Shilpashree Phys. Rev. C {\bf 74}, 052801(R) (2006)

\end{thebibliography} \end{document}

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