



UNISA



**International symposium on New Developments in Methods and Applications
of Few-body Physics: in Memory of Professor SA Sofianos**

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Gaussian Expansion Method and its application to few-nucleon systems

One of the most important subjects in physics is to calculate few-body Schroedinger equation accurately. By solving the equation, we can predict various observable before measurement and can obtain new understanding. For this purpose, it is necessary to develop the method to calculate three- and four-body problems precisely and to apply to various fields such as nuclear physic as well as atomic physics.

We proposed 'Gaussian Expansion method using infinitesimally-shifted Gaussian lobe basis function'. This method has been applied to few-nucleon systems, hadronic systems, atomic systems etc.

In this symposium, I will introduce the Gaussian Expansion method and report one of recent hot topics, tetra neutron system. The structure of tetra neutron system was already done by Prof. Sofianos. Here, I will report what is progress after his work.

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