Karakteristik symmetric nuclear matter pada temperatur berhingga = Characteristics of symmetric nuclear matter at finite temperature

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Abstrak

[ABSTRAK
Tumbukan ion berat menghasilkan suatu kondisi dimana jumlah proton dan neutron sama, hal ini disebut symmetric nuclear matter. Pemeriksaan terhadap karakteristik SNM masih dilakukan sampai saat ini. Efek suku non linear dianggap memberikan kontribusi terhadap karakteristik dari SNM, selain itu pemeriksaan terhadap kestabilan persamaan keadaan dilakukan dengan menggunakan metode medan rerata lanjutan. Pengecekkan lanjutan terhadap kestabilan persamaan energi dilakukan dengan mengamati nilai kecepatan suara untuk setiap parameter. Solusi dari persamaan densitas skalar, potensial skalar, dan turunan pertama potensial skalar ditunjukkan oleh titik potong ketiga kurva tersebut. Selain itu, pemeriksaan efek non linear terhadap kenaikan energi ikat dan tekanan setiap kenaikan temperatur juga diperiksa. Parameter G2 yang memiliki konstanta suku cross coupling terbukti memberikan kontribusi menahan laju kenaikan energi pada SNM, hal ini diperlihatkan oleh kurva parameter G2 merupakan kurva paling soft. Kurva parameter NLZ merupakan kurva paling stiff, serta memiliki nilai Cs paling besar saat nilai massa efektif tinggi. Kestabilan persamaan energi untuk setiap parameter masih dinilai realistik, ditinjau dari nilai C2s C2 < 1, namun setiap parameter memiliki daerahketidakstabilan saat massa efektif rendah karena nilai C2s negatif.
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ABSTRACT
Heavy ion collision produces a condition where the total of proton equal with the total of the neutron this condition is named Symmetric Nuclear Matter SNM The investigation of SNM characteristic is still being done nowadays Effects of nonlinear term are considered to contribute to characteristics of SNM in addition to the examination of the stability equation of state were calculated using extended mean field method Advanced checking the stability of the energy equation is done by observing the sound velocity values each parameter The solution of scalar density equation scalar potential and first derivative of scalar potential are showed by crossing point of three curves The investigation of non linear effects to the binding energy increasing and pressure every rise of temperature G2 which has cross coupling term contributes to restrain increasing of SNM energy it is shown by the G2 parameter curve is softest NLZ is stiffest and has biggest Cs value when high effective mass condition The stability of energy equation every Heavy ion collision produces a condition where the total of proton equal with
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Key words: coupling, soft, stiff.
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