

Comments of the author of "Ground state of a mass-3 boson system and Superfluid ³He" on the referee's comments and the Editor's judgement of Physical Review B on this manuscript by the author submitted to Physical Review B

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<Abstract>

The author received the letter of the rejection for the publication of the manuscript "Ground state of a mass-3 boson system and Superfluid ³He" in Phys. Rev. B by the Editor of Phys. Rev. B, Adams, only based on a referee's comments of Phys. Rev. B published in this note about the manuscript by him submitted to Phys. Rev. B. Here, the author notes the final letter of the Editor, the final referee's comments of Phys. Rev. B and his comments on the judgement of the Editor and the referee's comments since the author disagrees strongly with the views of the Editor and the referee's comments of Phys. Rev. B and therefore, he withdrew the paper entitled above from Phys. Rev. B for the publication in UIT Report.

미국 물리학회지에 제출한 저자의 원고 "한 질량-3 보존계의
기저상태와 초유체 헬륨-3"에 대한 미국 물리학지의
심사원의 평과 편집인의 판단에 대한 저자의 평

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<요 약>

저자는 미국 물리학회지에 제출한 저자의 원고 "한 질량-3 보존계의 기저상태와 초유체 헬륨-3"가 이 노우트에 실릴 미국 물리학회지의 한 심사원의 평에만 오로지 근거로한 미국 물리학회의 편집인 아담스에 의해 미국 물리학회지에 발행되는 것에 대한 거절편지를 받았다. 저자는 미국 물리학회의 편집인과 그 심사원의 평의 관점들과 의견이 매우 다르기 때문에 저자는 울산공대 논문집에 저자의 위의 논문을 발행하기 위하여 그 논문을 미국물리학회지로부터 철수했으므로, 여기서 저자는 미국 물리학회의 편집인의 마지막 편지와 마지막 그 심사원의 평들과 그들의 판단과 심사평에 대한 저자의 심사평을 노우트한다.

The author received the referee's comments and the judgements of Adams, the Editor of Physical Review B lettered on 12 May 1980 to him about the manuscript of "Ground state of

a mass-3 boson system and Superfluid ³He" submitted to Phys. Rev. B on 11 July 1979. Before that time the author received another referee's comments and the letter about his

considerations for the referee's comments requested by the Editor of Phys. Rev. B. Therefore, the author defended the referee's disagreements and about other disagreement wrote in Ref. 8 in the paper. However, the Editor and the referee didn't consider the views of the author at all and sent other comments and letter of the rejection and therefore, the author withdrew the manuscript from Phys. Rev. B. Here, the author notes the final letter of the Editor, the final referee's comments and his comments on the judgement of the Editor and the referee's comments.

The comments by the referee of Phys. Rev. B:

Comments on Manuscript BGK 136
"Ground state of a mass-3 boson
system and superfluid ^3He "

It is noteworthy that this work was originally carried out seven or eight years ago. If it had been published promptly, it might have been of some use to researchers in the theory of ^3He . Unfortunately in 1980 interest in the problem of mass-3 bosons as a stepping stone to the theory of ^3He is much less and the theoretical methods employed here are known not to be reliable. In 1972 it was thought that the Wu-Feenberg expansion was an easy and reliable way of inferring properties of ^3He from those of a mass-3 boson system. Ceperley, Chester and Kalos (Phys. Rev. B. 16, 3081 (1977)) showed conclusively from numerical studies that properties of fermion systems are not so easy to get from the corresponding boson systems. At the same time the treatment of such systems by methods not involving extensive numerical simulations has made great advances. A good reference here for the use of modern integral equations in calculating the structure of ^3He is K. Schmidt and V.R. Pandharipande, Phys. Rev. 19 2504(1979).

In view of this evolution in the theory of

^3He , I cannot recommend publication of Yim's paper in the Physical Review.

The letter of the Editor of Physical Review B, Peter D. Adams, to the author: We regret that in view of this referee's report we can not accept the manuscript by Yim for publication in Phys. Rev..

Comments of the author on the referee's report and the judgement of Editor of Physical Review B

This calculation does not depend on the Wu-Feenberg theory and the microscopic theoretical method employed here compared with other theories¹ is quite reliable and accurate. Good references for this statement are the paper by the author and Massey,² Ph.D. thesis by the author³ and will be given below: Ceperley et al.¹ concluded the statement by the referee since their result at equilibrium density differs from the experimental result¹ by approximately 100%. Results by Schmidt et al.¹ differ from the experimental results by about 11% at only equilibrium density, however, for other densities they admit their method not to be good.¹ However, results by the author differ from the experimental results by only less than 4%.

Because of the views outlined above the author strongly disagrees with the Editor's judgement only based on the referee's comments and the referee's comments of Physical Review B.

References

*Present Address:

1. For a good reference see, for example, the review article by Pandharipande and Wiringa (Rev. Mod. Phys. **51**, 821 (1979)).
2. M. Yim and W.E. Massey, Phys. Rev. B **19**, 3529 (1979).
3. M. Yim, Ph.D. thesis (Brown University, 24 July 1975) (published).