

Abstract Submitted
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On a Singular Solution in Higgs Field (3) - Relativistical Energy Flow towards Higgs boson KAZUYOSHI KITAZAWA, Mitsui Chemicals — The mass of SM Higgs boson (H^0) is re-examined under fluid mechanical consideration of micro (femt-scale) Reynolds number in Higgs boson sea for the process of Higgs mechanism. In this analysis, two gauge particles (W and Z bosons) are adopted as representatives to describe the process through their each mass acquisition. The mass value of fluid mechanical H^0 (f.m.- H^0) is calculated relativistically at $128.6 \text{ GeV}/c^2$, which is a little (6.6 per-cent) larger than our mass value of the asymptotic solution (theoretical mass: $120.611 \text{ GeV}/c^2$) of Higgs field.¹ This difference of mass value shows that there would be some extent of excess in sectional area's evaluation for f.m.- H^0 . Because, in this numerical calculation we assumed that f.m.- H^0 in Higgs boson sea is sphere. While theoretical mass of H^0 had a shape of truncated-Octahedron which inscribes to the sectional circle of f.m.- H^0 . So we may reduce this excess of mass since the drag force against the flow, which is proportional to sectional area of f.m.- H^0 , corresponds to acquired mass by Higgs mechanism. It is noteworthy that theoretical mass above is almost at center of the most like range of latest LHC's result for SM Higgs boson mass.

¹K. Kitazawa, DPF MEETING 2011: 166.

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