



SDI Review Form 1.6

PART 1:

Journal Name:	Physical Review & Research International
Manuscript Number:	MS: 2012 PRRI 2642
Title of the Manuscript:	Direct Correlation Function of Hard Molecular Fluid

General guideline for Peer Review process is available in this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



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PART 2: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>In Eq. (6), how many coefficient are needed to proceed calculations. Since these non-spherical calculations are much more expensive than spherical ones, the authors should make a general comparison between two cases.</p> <p>Figures 2-4 show different coefficients among each other, why?</p> <p>In figure 4, C222 as well as C220 and 440 have black areas and their curves is non-smooth, are these problems from computation errors? If so, the algorithm is of some deficiencies. The authors should give a explanation.</p>	<p>Dear Dr</p> <p>Thank you so much for your advice.</p> <p>The value of l_1, l_2, l and m are restricted by below conditions</p> $ l_1 - l_2 \leq l \leq l_1 + l_2$ $- \min(l_1, l_2) \leq m \leq \min(l_1, l_2)$ <p>In equation (6), 14 coefficients ($C(l_1, l_2, m; r)$) were calculated as follows</p> $\begin{array}{ccc} c^{000} & c^{020} & c^{400} \\ & c^{220} & c^{240} \\ & c^{221} & c^{241} \\ & c^{222} & c^{242} \\ & & c^{440} \\ & & c^{441} \\ & & c^{442} \\ & & c^{443} \\ & & c^{444} \end{array}$ <p>We make general comparison between spherical models and our work and</p>



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		<p>addition it in the paper.</p> <p>About figure 2-4, if different coefficients are shown it is only that we have shown more coefficients and their variation.</p> <p>All figures are plotted in MATLAB. Black areas in figure 4 and other figures are due to plot them in MATLAB. If you draw an arbitrary function in MATLAB and save it, you will see the black areas. If figures are small they have not black areas and non-smooth. But if zoom them black areas are distinguishable. Figure 4 is compare with simulation work and for this compare we bold our results into other figures (2 and 3). Maybe this more bold has caused that you think curves are non-smooth. These are not related to computation errors.</p>
<u>Minor</u> REVISION comments	Is this algorithm applicable to other approximations such as HNC and MSA models with attractive forces?	Yes this algorithm can be used for other closures. The HNC approximation is generally better at predicting the behavior of liquids containing substantial attractive potentials, such as liquid species containing coulomb interaction sites, when compared to the PY equation.
<u>Optional/General</u> comments		