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| Book Name: | [**Geography, Earth Science and Environment: Research Highlights**](https://www.bookpi.org/bookstore/product/geography-earth-science-and-environment-research-highlights-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4527** |
| Title of the Manuscript:  | **Discovery of Stishovite in the Prismatine-Bearing Granulite from Waldheim, Germany: A Possible Role of Supercritical Fluids of Ultrahigh-Pressure Origin** |
| Type of the Article | **Book Chapter** |

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| PART 1: Comments |
|  | Reviewer’s comment**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | **For the first time in the sixty years since the synthesis of stishovite, we report unambiguous evidence of stishovite formed in the deep Earth. A minimum pressure of about 7.5 GPa at 1000 ◦C is necessary for the formation of stishovite, corresponding to a depth of about 230 km. In this manuscript we report the identification of stishovite along with coesite as inclusions in mineral grains from the Waldheim granulite. This implies that the stishovite was transported upwards, probably very rapidly to a depth of about 130 km, corresponding to the highest pressure indicated by newly identified coesite in the prismatine of the Waldheim granulite, and continuing up to the depth of emplacement of the Waldheim prismatine granulite. The analysis of the Raman spectra obtained from a metastable trapped stishovite micro-crystal show that all the diagnostic Raman bands are present. However, given the metastability of the stishovite at room temperatures and pressures, this mineral breaks down step-by-step into stable polymorphs, first coesite and then quartz and cristobalite, during the Raman stimulation. The rare coesite crystals in prismatine have also resulted from the irreversible transformation from stishovite. Although the Waldheim occurrence may be unique, we suggest that Raman analysis of co-trapped crystals in similar deep-seated rocks, an area of limited previous research, may prove an important innovation in the study of mantle processes.** |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | **Yes** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **Yes** |  |
| **Is the manuscript scientifically, correct? Please write here.**  | **Yes** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | **Yes** |  |
| Is the language/English quality of the article suitable for scholarly communications? | **Yes** |  |
| Optional/General comments | Provide insightly conclusion instead of summary  |  |

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| **PART 2:**  |
|  | **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)* |
| **Are there ethical issues in this manuscript?**  | *(If yes, Kindly please write down the ethical issues here in details)* |  |

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| **Reviewer Details:** |
| Name: | **J.Sunil** |
| Department, University & Country | **Annai Vailankanni College of Engineering, India** |