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Discussions

Interactive comment on "Review on Mineral Characterization of Precambrian Charnockites – using PIXE Technique" *by* Avupati Venkata Surya Satyanarayana et al.

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Sir,

Thank you very much for both reviewers about their valuable comments on PIXE analysis - Matrix Composition. First of all, we appreciate reviewer suggestions and contribute to improving the manuscript. According to reviewer comments, we already edited and corrected (sent through SC)significantly at some grammatical errors in the manuscript after Reviewer #1 comment and should be included in the manuscript of the final version with following Reviewer # 2 comments also. The remarks were implemented into the new version of the paper. We agree with the two reviewers for significant correc-

tions at grammatical errors.

Anonymous Referee #2

Received and published: 5 November 2020. In this paper is studied the possibilities of Particle Induced X-Ray Emission technique (PIXE) to characterize Charnockites from Visakhapatnam samples (India). It shows an exhaustive analysis comparing the results from PIXE with Atomic Absorption Spectrometry (AAS). The analysis includes elements presented in the rocks in low concentrations down to ppb (parts per billion).The study is interesting and can open a wide range of future studies.

Despite this, authors need to fix some errors and explain carefully some details:

Reply to reviewer #2 comments

Despite this, authors need to fix some errors and explain carefully some details: * Q.1.The experimental details are properly explained and the data analysis is made with some software by a nonlinear least square algorithm. But no reference to any fitting. This should be included to have an idea of how good the data fits the curves? A; Sir, We included reference Q.2. Figures from 1 to 7 have been stretched horizontally and text in them is hardly read. Authors should consider clarifying this? A; No, specific issue, for page setting purpose only Q.3. In lines 317 and 318 authors explain that by using modern advances in PIXE it is possible to eliminate the overlapping of peaks. But later, in the same page, they explain that the underestimation of concentration of certain elements can be explained by the overlapping of such peaks. Can this overlapping be eliminated or not? Authors must clarify this? A; In case of complex matrix, we can't achieve complete results of total composition. Otherwise if it is simple or non matrix it is ok (at media Z) except at low Z and higher Z. element. Q.4 I encourage the authors to include the references with name and year between parentheses ("Precipitation increase was observed (Smith, 2009)..."), unless they were part of the sentence ("As we can see in the work of Smith (2009) the precipitation has increased"). Please read author indications in the web (https://www.geoscientificinstrumentation-methods-and-

data-systems.net/submission.htmlreferences) * A; Yes, Sir. Q; 5. Some typos need correction: âĂć Line 29 at the end: Phanerozoic âĂć Line 30 at the end: Cenozoic (or Caenozoic) âĂć Line 32 at the end: Phanerozoic âĂć ? A; Spellings Corrected Q; 6. Sentence in lines 36 to 38 has no meaning. âĂć Also the sentence of lines 38 and 39 need to be rewritten. âĂć Sentence at lines 42 and 43 is not clear? A; Yes, Previously corrected all grammar errors, according to respected Reviewer #1 suggestions. Q; 7. it may need an "AND" between India and "IS" that according to the sentence should be "ARE"? Q; 7. âĂć Line 45 at the end: need an "IS" somewhere? A; and Corrected are, Corrected Q; 8. Line 50: "...The rocks are FROM Precambrian age. . ."? A; from Corrected Q; 9. âĂć Line 89: consider use precision rather than precession? A; precision Corrected Q;10. âĂć Line 124, at the end: consider using annotated rather than noted (famous)? A; annotated Corrected Q; 11. âĂć Sentence in lines 139, 140 and 141: This sentence cannot be understood? A; sentence Corrected Q; 12. âĂć Line 181: consider editing the sentence to change the use of which (". . . obtained by AAS are close to already published data . . .)? A; sentence Corrected Q; 13. âĂć Table 12: Oxygen must be capitalized. (SiO2)? A; O Corrected Q; 14. âĂćLine 301 at the end needs a verb? A; verb Corrected Q; 15. âĂć Line 310 at the end also needs a verb. ? A; verb Corrected Q; 16.âĂć Line 320: It cannot be used the form "there is" paired with "accuracies"? A; word Corrected Q; 17. âĂć Line 342: The sentence at the end needs some verb. âĂć Line 416: elements if (space)? A; verb Corrected Q; 18. âĂć Line 643: background (eliminate space) âĂć Sentence beginning at the end of line 651: the use of "them" is not clear, and verb tenses must be related (past or present)? A; space Corrected Q; 19.âĂć Sentence beginning at line 655 cannot be understood? A; Corrected Q; 20. âĂć The end of sentence in lines 659 and 660 is not clear: high grade of metamorphic rocks? High grade of metamorphism? A; high grade of metamorphic rocks Corrected Q; 21. âĂć Sentence in lines 662 and 663 cannot be understood? A; sentence Corrected Q; 22. Some parts of the text need to be rewritten because they are not clear. Specially the Abstract and the Conclusions are hard to be understood due to the lack of verbs. I encourage the authors to make an exhaustive

revision of all the sections to avoid so much grammar errors? A; Grammatical errors corrected