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Dear Editor,

Thank you for your Letter from 24 of April 2017. and for sending us the Referee comments on our manuscript: ,,Lattice dynamics of iron chalcogenides – Raman scattering study”, by M. Opačić and N. Lazarević.
We would like to thank the Referees for their comments and remarks. Having them in mind, we prepared the final version of the manuscript. List of changes are given below.

**List of changes**

**Reviewer A:** The only weak point of this work has to do with the very short “Summary and Conclusion” section, which epitomizes the substantial amount of the presented data in three lines. It is my suggestion this section to be expanded to one or two pages in order to conform with the detailed
presentations of the previous sections.

**Authors reply:** We agree with referee’s remarks and expanded this section accordingly.

In the 1st paragraph of the ,,Summary and Conclusion’’ section we omitted the text:

*,,It provides unique insight into Brillouin zone-center lattice dynamics, and sometimes covers also the other regions of the zone.’’*

After the 1st paragraph, we added:

*,,Raman spectra of Fe(Te, Se) single crystals measured from the ab-plane consist of two modes, assigned as A1g and B1g ones. Magnetic transition in FeTe causes softening and narrowing of the B1g (Fe) mode. With Se doping of FeTe crystals the A1g mode hardens and narrows, whereas the B1g one softens and broadens, compared to the pure FeTe. Large B1g mode hardening observed for FeSe is explained as a consequence of the dynamical crossover between different Fe spin states. Electronic nematic fluctuations leave a fingerprint through highly polarized quasielastic response in the Raman spectra of FeSe in the tetragonal phase.*

*Vibrational spectra of KxFe2-ySe2 single crystals have large number of phonon peaks. Some authors assigned them according only to the I4/m space group, whereas the others assume the existence of I4/mmm and I4/m phases, which is confirmed by the other techniques. Renormalization of the A1g mode energy at* $T\_{C}$ *in SC KxFe2-ySe2 and the absence of renormalization in non-SC isostructural KxFe1.8Co0.2Se2 indicates that it is induced by the opening of SC gap, confirming that this mode indeed represents the I4/mmm phase vibration. Raman studies also revealed that doping of KxFe2-ySe2 single crystals with different amount of Co and Ni significantly affects their crystal structure. When Ni (Co) content is low, large number of modes points out to the presence of both I4/mmm and I4/m phases. At high dopant concentrations, as well as for pure Kx(Co, Ni)2-ySe2, only two modes, of A1g and B1g symmetry, appear in the phonon spectra, confirming the lack of ordered vacancies. Spin-dependent electron-phonon coupling and magnetostriction effects leave a clear fingerprint on vibrational spectra of KxCo2-ySe2, through a strong deviations of the phonon energy and linewidth temperature dependence from the anharmonic behavior.*

*Magnetic ordering manifests itself through the influence on energy, linewidth and lineshape of the observed phonon modes of spin-ladder iron-based systems BaFe2S3, BaFe2Se3 and BaFe2Se2O. Besides that, analysis of the two-magnon continuum modes of BaFe2Se2O allows the estimation of the spin gap energy and classification of this material as a quasi-2D magnetic system.’’*

**Reviewer B (1):** As a lot of detailed information is given it might be useful for better comparison to compile more material in tables such as Table I, which gives a good synopsis of the various 11-type materials discussed. Especially on p. 18-19, where several modes of differently doped KFeSe compounds are discussed, this will improve the readability.

**Authors reply:** We accepted the Referee’s remarks and added corresponding tables: Table II on p. 18 and Table III on p. 19.

**Reviewer B (2):** Line 110 states "the phase separation" as an interesting property of these systems, which gives the impression that phase separation is a unique feature solely of iron chalcogenides. This should be rephrased.

**Authors reply:** We agree with the Referee and replaced the phrase:

*,,...the phase separation...’’*

with

*,,...the presence of AFM phase with ordered Fe vacancies and vacancy-free SC/semiconducting phase...’’.*

**Reviewer B (3):** I strongly recommend that the authors revise the manuscript for spelling and language issues which I encountered frequently. I find them rather distracting in an otherwise useful and well-written article.

**Authors reply:** We thank the referee for this remark and revised the manuscript accordingly.

**Reviewer B (4):** The summary falls short of the many details given in the manuscript. It mainly states that Raman scattering is a useful technique for observing phonons and that phonons can probe other properties such as magnetic ordering and structural changes as is well known. I recommend that the summary spells out in more detail what insight has been achieved by observing phonons in iron chalcogenides.

**Authors reply:** We agree with the Referee. The manuscript is expanded as shown in the reply to the remark of the Reviewer A.