



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_27184
Title of the Manuscript:	Magnetic properties of a quasi-two-dimensional Heisenberg antiferromagnet -RbCrF4
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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



SDI Review Form 1.6

PART 1: 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		We acknowledge the referee's effort to review our manuscript [Ms_PSIJ_27184]. We admit referee's comments to be reasonable and valuable.
Minor REVISION comments		
Optional/General comments	<p>In this paper authors reported to synthesize a quasi-two-dimensional Heisenberg antiferromagnet α-RbCrF₄. This synthesis is one step to realize the material where ferromagnetism, ferroelectricity, and ferroelasticity coexist and completely couple with each other. They used the RS method to synthesize the pure antiferromagnet.</p> <p>As results they can suppress the extrinsic anomaly due to impurities in measurements of the magnetic susceptibility.</p> <p>Also performing X-ray diffraction (XRD), they revealed that α-RbCrF₄ consists of a superstructure in the ab-plane.</p> <p>But they could not determine the structure, and they could not clarify whether ferromagnetism, ferroelectricity, and ferroelasticity coexist in this material.</p> <p>Based on these observation, I conclude that this paper is worth publishing, although it does not include the high novelty.</p>	<p>We withdrew the discussion about the superstructure of RbCrF₄ because of no refinements. Furthermore, the splitting of XRD peak profiles in the inset of Fig. 2(a) was also withdrawn.</p> <p>However, the basic structure consists of a TlAlF₄-type structure and the XRD profiles agree well with the <i>Pmmn</i> ($2a \times 2b \times c$) space group. Therefore, a good two-dimensionality is expected in RbCrF₄. This modified part is lines 109-113 in the revised manuscript.</p> <p>On the other hand, we add the magnetic susceptibility in the several samples using the usual method and RS method in Fig. 2(b) in order to explain impurity-induce weak ferromagnetic moment. We think that the magnetic susceptibility data in Fig. 2(b) provide that the weak ferromagnetic moment and $T^* = 15$ K are extrinsic. Therefore we concluded that RbCrF₄ consists of two-dimensional Heisenberg antiferromagnets.</p>



SDI Review Form 1.6

		<p>We believe that we have sincerely replied to the comments of the referee in the revised manuscript and that the present revised version of the manuscript is now worthy of publication as <i>Regular Articles</i> in <i>Physical science international journal</i>.</p>
--	--	--