

Review Form2

Book Name:	Science and Technology - Recent Updates and Future Prospects
Manuscript Number:	Ms_BPR_2077
Title of the Manuscript:	Free Induction Decay and Spin Echo Signals from Spin Triplet States of Axially Asymmetric Objects in Single Crystals in Zero Constant Magnetic Field: Application of Single Transition Operators
Type of the Article	Book chapter

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	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. Why do you like (or dislike) this manuscript? A minimumof 3-4 sentences may be required for this part.	It is useful for theoretical explanation Zeeman system and single transition operators.	
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	
Are subsections and structure of the manuscript appropriate?	Yes	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimumof 3-4 sentences may be required for this part.	In this manuscript authors reported on Anisotropic dynamics of the spin triplet states (STs) in single crystals with the zero field splitting (ZFS) of their levels by the axially asymmetric Hamiltonian is investigated in zero constant magnetic field (ZF) under the action of the canonically oriented varying magnetic fields. The equations of motion for single transition operators (STOs) corresponding to the definite transition of ZFS are derived. The obtained equations written in terms of one averaged equation for STO vector appeared to be a particular case (for STS) of the universal equation of Feynman et al, which is valid for any kind of perturbation affecting only two levels of any quantum mechanical system. Authors are also explained that, their equation is analogous to the Bloch equation without decay for the usual magnetization components of the Zeeman system in a constant magnetic field and a transverse to it varying field. The motion of the observable macroscopic sample magnetization, which follows from authors equations, has quite different character than that of the motion of the STO vector. Here, in terms of this magnetization the signals of the free induction decay and of the two-pulse spin echo are calculated in ZF. I have gone through the entire manuscript and it is useful for theoretical explanation Zeeman system and single transition operators. Hence I recommend and accept this manuscript for its publication in the journal.	

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Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Yes	
Minor REVISION comments		
Is the language/English quality of the article suitable for scholarly communications?	Good	
Optional/General comments		

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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