Questions for Chapter 4

1. What is the energetic structure of an ion-ion pair coupled by exchange interaction?
2. What experimental conditions must be chosen to observe ESR on antiferromagnetically coupled ion-ion pairs in a DMS?
3. How can one determine number of ion-ion pairs and their coupling constant from ESR measurements?
4. What information can be obtained from high temperature susceptibility?
5. What is the meaning of parameters of empirically modified Brillouin function?
6. How can ion-ion coupling be determined from specific heat measurements? What is the peculiar feature of Fe^{++} ions influencing such studies?
7. Why steps are observed in magnetization vs. magnetic field curves? What information do they supply?
8. What information can be obtained from electronic Raman scattering in DMS?
9. What can we learn on ion-ion coupling from neutron scattering and how?
10. How does spin freezing temperature in DMS depend on magnetic ion concentration? What can be obtained from this dependence?