The latest meeting of the NIAAS took place on Monday 1st November. Our guest speaker for the evening was John Cox, a member of the Doncaster Astronomical Society. John's subject for the evening was double stars, and he gave an in-depth analysis of these fascinating objects.

John started off by discussing the different types of double stars, noting that "double star" is in fact, a term which is often used to describe not just a system with two stars, but also multiple star systems. He explained that double stars fell into six different categories, from so-called optical doubles, ie those which are not connected gravitationally, but are merely line-of-sight effects, through gravitationally bound star systems which can be split in a moderate telescope, right down to those which consist of two or more stars which are so close that their atmospheres are mixed together.

He then went on to describe those systems in which the components are very close and cannot be split in a telescope, but careful observation will show a regular dip (or double dip) in the total magnitude as the pair orbit each orbit eg Algol in Persesus.

He then discussed those categories of extremely close doubles, called spectroscopic binaries, and John explained how astronomers analyze these stars, using red and blue shifts of their emission lines to determine the speed of rotation of the components, and the physical distance between them.

He noted that the study of double stars and their changes in position relevant to each other is one of the few branches of astronomy which is still almost exclusively carried out by amateur astronomers. He described the two different type of information which can be determined by long and careful study of a particular pair of stars, namely, the distance between the pair, and their position angle in relation to one another. Using this information, it is possible to work out the length of time required for the pair to make a complete orbit around their common centre of gravity (the barycenter). He showed slides illustrating the equipment needed for this type of study, and noted that many amateur observers actually make this equipment themselves. John then showed some images of well-known doubles, before showing some of his own observing notes made over the last few years.

It was quite a long talk, and John admitted later that he rather lost track of time, for which he apologised. However, he did step in at quite short notice, after a previously arranged speaker had to pull out, and we were very grateful to him for making the time and effort to come all this way to give the talk.

This was John's first trip to Northern Ireland, and he was eager to see some of the sights. So I took him round Belfast on the Tuesday morning, and he enjoyed taking plenty of photographs of the usual tourist attractions. He was especially taken with Queens University and the two great cranes at Harland and Wolff. But probably his best memory will be of the Ulster Fry he got for his breakfast at the guest house (I'm not sure whether he took a photograph of it). He will be giving a talk to the Doncaster Astronomy Society about his visit and has promised to send over details. Hopefully he will come back again some time in the future for a longer visit. He asked me to Thank you all for making him so welcome, and for the gift and card.