

Proposal to join ISIAC and e,2e to a common satellite meeting of ICPEAC

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Research in both electron-atom and ion-atom collisions has continuously decreased over the last decade. As a result, the e,2e and ISIAC meetings were forced to increasingly include presentations from unrelated fields in their programs. Furthermore, at least ISIAC is decreasing in size (apart from attractive locations or environments like Crete or boat trip). The numbers of people who attended the ISIAC in Rio and who will also attend the upcoming meeting in Crete are 15. This shows that the core of regular attendees is alarmingly small. This trend is further enhanced by a new satellite meeting covering Physics related to EBIS and ECR sources. It has been argued that this trend will be reversed by the upgrade at GSI. I am afraid this may be an unrealistic expectation. It will be another 10 years before the first experiments can be performed. Furthermore, it is not clear how many investigators from the ion-atom community will use this facility. Many of those who are engaged now and have ideas will be retired (or close to retirement). I remember the numerous workshops on storage rings about 25 years ago where wonderful new ideas on prospective ion-atom experiments were discussed, but very little of it was ever implemented. As far as I can tell, the storage rings did not give a significant boost to the ion-atom community.

A more important reason for joining the e,2e and ISIAC meetings than the shrinking size is a significant thematic overlap. The ISIAC community has changed (or is currently in the process of changing) significantly over the last decade. Earlier, there was a large component of Physics which was not directly related to e,2e, like ion-surface interactions, spectroscopy of highly charged ions, capture processes, etc.. The new satellite meeting on EBIS and ECR sources will draw a large fraction of these sub-fields into their programs. What will be left for the ISIAC (apart from unrelated fields, see above) will to a large extent cover essentially the same Physics as the e,2e meeting, namely collision dynamics for charged-particle impact.

The Physics of charged-particle impact is not fundamentally different for different sign of the charge or mass of the projectile. Yet, for many years the e,2e and ion-atom community had little knowledge of the activities of the respective other group. This was very unfortunate as the exchange of ideas, techniques etc. was very inefficient. Only in recent years the e,2e community started to show some interest, and I like to believe started to recognize the benefits of doing so, in what is done in ion-atom collisions and I suspect in the other direction a similar statement could be made. One could argue that this exchange should occur at the ICPEAC, but I think it is much more efficient at the smaller satellite meetings. The good news is that the contacts are getting closer. For the last eight years or so there have always been several invited talks on ion-atom collisions at the e,2e meeting. Therefore, to some extent the merging I am proposing is effectively taking place already and I believe both communities have benefited from it. For example, recent three-dimensional fully differential single ionization cross section measurements performed for ion-atom collisions have triggered a lot of activity, both experimental and theoretical, for electron impact collisions. These efforts have considerably advanced our understanding of collision dynamics. I believe that by merging the two meetings such constructive feedback would significantly intensify.

One concern that has been expressed is that the joint meeting would become too large. It would certainly increase in size, but with the new EBIS meeting (i.e. reduced ion-atom community) my estimate is that an average attendance would be around 150 (certainly not more than 200), which is only about 20% of a typical ICPEAC attendance. 20 years ago this was not an unusual size for the ISIAC (and I assume for the e,2e meeting), and those meetings went very well.

The format of a joint meeting would not have to change much from the current e,2e meeting. At present, it is held together with the correlation and polarization meeting in parallel sessions. This could continue, but at the same time some flexibility can be gained. In the past, it was not too difficult to fill the program of the e,2e meeting, but the correlation and polarization program was more problematic. With a joint meeting, two parallel sessions could be filled with more flexibility without having to stick to the traditional borderlines between the original conferences. Compared to the past meetings the program would have to be somewhat compressed, but I believe this would serve the quality of the program. At present, the e,2e meeting runs from Thursday to Saturday, which I think could also be continued.

In recent years, there have been a lot of efforts to save each meeting by opening them to non-related fields. I would prefer to strengthen collision Physics by creating a strong "Charged-particle Collision Dynamics Conference" (the name could be something similar to that), which provides an interesting program with its own topics. With a merger we would accomplish just that. I am afraid that for each meeting separately the chance of success is much slimmer.

The discussion of this and other possible ideas will be discussed at the special session at 21:00 on Thursday evening Aug. 2 in the main XX ISIAC conference room. All interested in participating in the discussion are invited.