

EDITORIAL

We are pleased to present the first issue of the Bolivian Journal of Physics (RBF) for the year 2020. We find ourselves in a unique situation due to the CoVid 19 pandemic and its effects that are affecting the entire planet. Unfortunately, Bolivia is no exception to its devastating consequences including economic and social aspects. Despite this, the Bolivian scientific community in general and the physics community in particular, have shown their resilience in the face of this particular circumstance. This robustness is reflected in the continuity of academic activities, including “virtual classes”, using new communication technologies which have been consolidated in the last few years. “Virtual classes” have served as a very good alternative for academic follow-up. Also, commendable is the work of lecturers who have adapted to the situation on a constant basis so that students can acquire an adequate level in the different subjects, including those related to laboratories.

Worthy of recognition is the work of the Dr. Max Schreier Planetarium. This institution has during the pandemic made enormous efforts to disseminate physics and astronomy through lectures, talks, courses and other activities which have been well accepted not only by scientific communities but also by the public. Thanks to different technological platforms, the events organized by the Dr. Max Schreier Planetarium had a great reach and impact on society. Our sincerest congratulations to the staff of the Dr. Max Schreier Planetarium; to the technical and administrative staff as well as to the teachers-researchers, students, assistants and volunteers linked to this social interaction arm of the Universidad Mayor de San Andrés (UMSA).

Regarding research activities, the different groups have actively continued their work, in spite of the limitations in terms of access to laboratories. It is perhaps for this reason that this issue of the RBF contains mainly contributions on theoretical aspects of physics.

In this first issue, corresponding to 2020, we have noticed an increased uptake in the option to submit papers in English and this furthers our reach to the international scientific community that predominantly uses the English language.

In this issue of the RBF, two scientific articles submitted to the international refereeing process are presented. In the first article, Bustos-Espinoza & Ramírez-Ávila (2020) study the synchronization of two coupled logistic maps in an extended parameter space with respect to previous works of the same Bustos-Espinoza & Ramírez-Ávila (2012) and working with the synchronization indicator introduced by Bustos-Espinoza & Ramírez-Ávila (2016) and the periodicities that this indicator presents in its temporal evolution. An interesting aspect shown by the authors, is the appearance of structures similar to those obtained by Ramírez-Ávila & Gallas (2011) when studying the dynamical behavior of the Tinkerbell map. In the second article, Carrasco-Mejía & Urzagasti (2020) study the formation of localized structures in a system described by the perturbed Sine-Gordon equation (SGP) parametrically forced with weak dissipation and in the neighborhood of the parametric resonance. The authors describe the localized structures by means of the complex Ginzburg-Landau ubiquitous-quintic-septic (CGL-septic) equation associated with the SGP equation. Also, the authors constructed a phase diagram of the regions in which solitons occur for both the CGL-septic and the SGP equations.

Regarding the other contributions, one corresponds to Peñafiel & Gómez (2020), who show that for a charged particle in an electromagnetic field, the manifest covariance can be preserved for a treatment under the Dirac theory for the Hamiltonian formalism associated to the singular Lagrangian. The other contribution corresponds to the teaching section and deals with the estimation of the π value by means of the Monte Carlo method, which is explained in detail by Vargas & Cruz-Carpio (2020).

We hope that the contents of this issue of the RBF are well received and motivate the reader to further and deepen the work presented. We invite the scientific community to send us their comments and also to send their papers to be published in the different sections of the RBF.

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