EDITORIAL

Undoubtedly, the COVID 19 pandemic is causing socio-economic havoc and seriously affecting the health of a large part of the world's population. However, it has also triggered responses from different scientific fields that seek to better understand the phenomenon and its underlying consequences, as well as, to propose solutions to alleviate the crisis generated by this pandemic. Bolivian physicists are no exception and within their different specialities they have dedicated important efforts to contribute to the fight against the pandemic and its aftermath. These have mainly been in the formulation of models that not only pose hypothetical descriptions but also propose solutions based on scientific data/results that decision makers should consider.

Precisely, this new issue of the Bolivian Journal of Physics (RBF), the second of the year 2020 and the 37th in its history, is dedicated to the problem of the CoVid 19 pandemic. The groups of theoretical physics, nonlinear dynamics and complex systems, applied physics and atmospheric physics have contributed to this new edition of the RBF addressing the COVID 19 issue from different perspectives. It is also important to highlight in the papers presented, the leading participation of young professionals in physics, some of them developing their graduate studies in Bolivia and abroad. There is even the work of an undergraduate student who makes his foray into scientific publication.

We are pleased to present the number 37, corresponding to the second issue of the RBF in 2020, in a scenario in which the pandemic continues and even though most of the activities tend to normalize, as scientists we are aware that to reach complete normality, there is still a long way to go and this journey should be characterized by caution and prudence in the face of COVID 19 to avoid the dramatic situations as far as the health system is concerned.

This issue of the RBF presents four scientific articles submitted to international arbitration and one contribution. Regarding the works approved by arbitration, there is a first article in which Peñafiel & Ramírez-Ávila (2020) propose and analyze a compartmental model called SIRASD (Symptomatic Infected-Asymptomatic Infected-Susceptible Recovered-Deaths), in which they introduce factors that account for the behavior of social groups in relation to compliance or non-compliance with containment measures. With these elements applied to the socio-political situation in Bolivia, they were able to make accurate predictions as to the maximum possible peaks depending on social behaviors. The previous work corresponds to an extension of that presented by Peñafiel & Ramírez-Ávila (2020a). In the second article presented by Vargas, Ghezzi & Ticona-Bustillos (2020), a model based on cellular automata applied to the growth of microbial populations is outlined, adapting it to the propagation of COVID 19 in closed systems, considering five groups of interest: healthy, vaccinated, incubating, sick and recovered individuals. Among their main results, the authors show that mobility and the increase in the population of individuals in enclosed spaces constitute the relevant factors for massive contagion. In the third article, Velarde, Mamani-Paco & Andrade-Flores (2020), members of the Atmospheric Physics group, present the estimated results of the probability of COVID 19 infection by aerosols in different closed environments, namely, classrooms, theatres and public transport, obtaining as a main conclusion that the ventilation of environments is the simplest way to reduce the probability of infection. Finally, the refereed contributions are completed with the work presented by Bellot (2020) who presents the estimation of the effective number of R_t reproduction working with the SIR epidemiological model. Furthermore, the author recommends the use / application of this quantity to evaluate the impact of containment measures on the development / spread of the pandemic.

In the non-refereed contributions section, Tejeira (2020) a physics undergraduate student, presents a modification of the SIR model incorporating asymptomatic persons and compares the official data on the number of infected persons with the results obtained from the model used.

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.

REFERENCIAS

Bellot, D. 2020, Revista Boliviana de Física, **37**, 31.

Peñafiel, M.L., & Ramírez-Ávila, G.M. 2020, arXiv e-prints, arXiv:2008.06345

Peñafiel, M.L., & Ramírez-Ávila, G.M. 2020, Revista Boliviana de Física, **37**, 3.

Tejeira, J.D. 2020, Revista Boliviana de Física, **37**, 41.

Vargas, A., Ghezzi, F. & Ticona-Bustillos, A. R. 2020, Revista Boliviana de Física, **37**, 12.

Velarde, F., Mamani-Paco, R. & Andrade-Flores, M. 2020, Revista Boliviana de Física, **37**, 22.