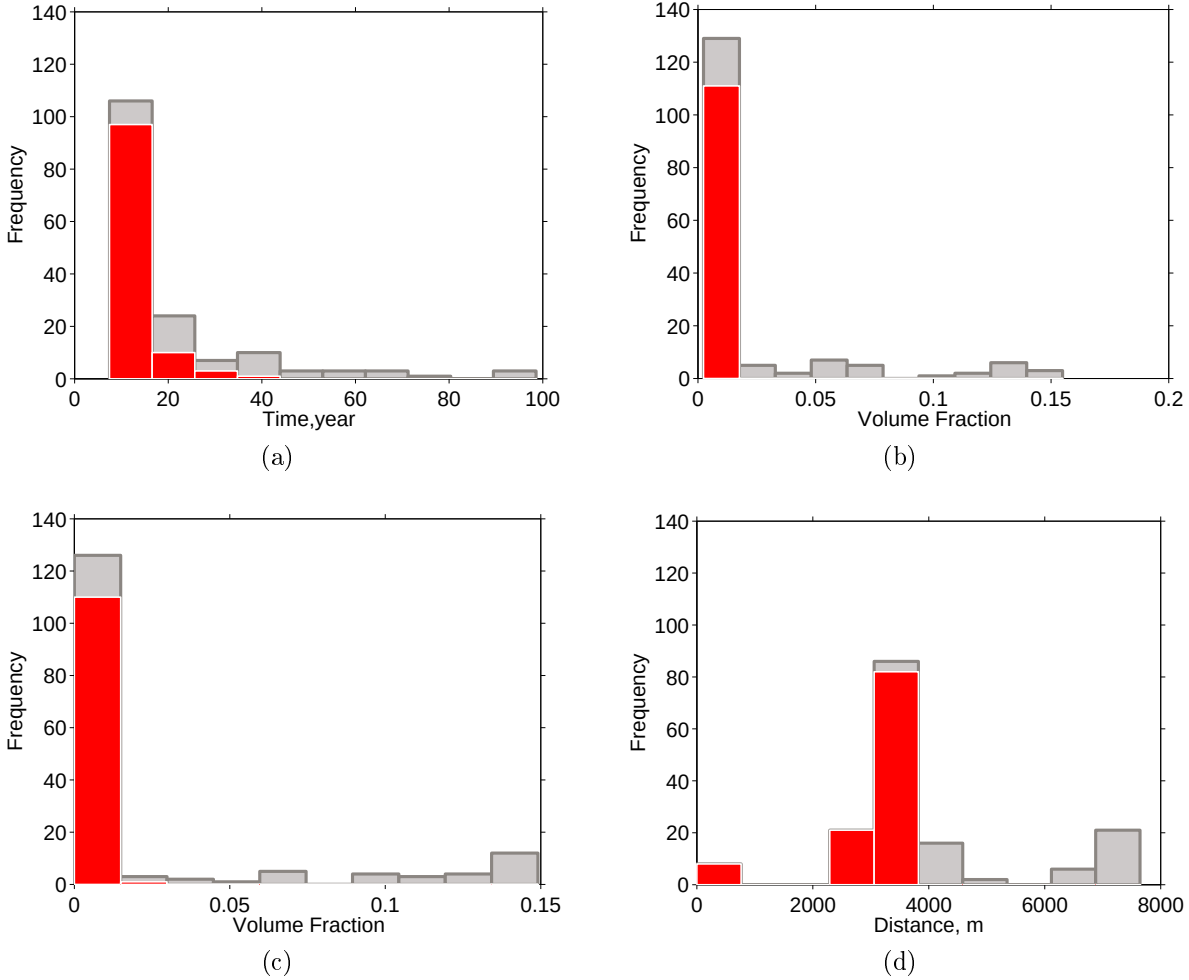

Figure 16: The histogram of filtered cases (coloered in red) compared with the histogram of all cases for different pressure responses: a) Injection time, b) Pressurised volume fraction, c) Build-up volume fraction, and d) Farthest pulse distance from the injection point.

The plot shows that most of the cases that pass the filtering are concentrated in a region of low build-up fraction values. Figure 16 reports the histogram of filterd cases in comparison with the histogram of all studied cases for each response.

6 Conclusion

This work is a part of comprehensive sensitivity studies to assess the impact of geological heterogeneity on CO_2 injection and early migration. The aim of this study is to define preventing measures that can be used to avoid high pressures and the damages accompanied by them during the injection operations. Simulation responses related to the pressure behavior in the system are defined and calculated for two CO_2 injection scenarios. Geological variations in shallow-marine depositional systems are examined by using large number of realizations representing a spectrum of sedimentological and structural parameters. Operational critical values are considered for the defined preventive measures.