Parameterization: In a model, quantity CKGE*TMP*i A CKGE*TMP*i is modelled. CKGE*TMP*i A CKGE*TMP*i is influenced by unknown CKGE*TMP*i B CKGE*TMP*i . Parameterization is to express CKGE*TMP*i B CKGE*TMP*i using CKGE*TMP*i A CKGE*TMP*i and/or other known quantities , such that CKGE*TMP*i A CKGE*TMP*i can be estimated . Parameterization scheme s usually consist of parameters to be determined empirically. Example, we model population density CKGE*TMP*i ρ CKGE*TMP*i using model (conservation equation) d CKGE*TMP*i ρ CKGE*TMP*i /d CKGE*TMP*i t CKGE*TMP*i = CKGE*TMP*i s CKGE*TMP*i , where CKGE*TMP*i s CKGE*TMP*i is birth-death rate , but unknown. Because of this, the model is not “closed”. Since CKGE*TMP*i s CKGE*TMP*i is too difficult to estimate , we express CKGE*TMP*i s CKGE*TMP*i using CKGE*TMP*i ρ CKGE*TMP*i , e.g., s CKGE*TMP*i = r CKGE*TMP*i ρ CKGE*TMP*i , where r CKGE*TMP*i is a parameter. The model is now d CKGE*TMP*i ρ CKGE*TMP*i /d CKGE*TMP*i t CKGE*TMP*i = CKGE*TMP*i r CKGE*TMP*i CKGE*TMP*i ρ CKGE*TMP*i which is the Mathus (1798) population growth theory. We use p arameterization to describe our understanding of the processes. It is a vital technique for representing cross-scale and cross-compartment interactions in complex systems . (YS, 12.06.2024).