

Chapter 7

Recommendations for Future Work

Beyond the development of the column flotation dynamic representation, a number of future tasks can be proposed, such as:

- On the basis of the methodology introduced for the representation of froth coalescence, further studies on the relationship between bubble coalescence and various elements such as frother dilution, particle characteristics and extent of bubble loading are needed. This knowledge could then be incorporated into the model by way of improved mathematical correlations that allow the calculation of the coalescence efficiency rate parameters as a function of the mentioned parameters.
- Preliminary verification work suggests that the model has the capability for predicting column behavior in accordance with recorded laboratory and plant data. In order to completely establish the range of validity and the constraints involved in the application of this model, it would be useful to develop a validation procedure for a wide range of operating conditions.
- The model equations can be solved much faster if written in a compiled computer language such as C or Pascal. Use of MATLAB for the development stage is very practical because changes in the code can be made very easily, and the package incorporates a lot of utilizable built-in-functions. However, MATLAB is an interpreted programming language, which makes it very slow during execution.
- The equations presented are in their most general form, that is, they do not limit the number of particle or bubble classes, and they incorporate a great number of auxiliary equations for expressing interrelationships between variables. However, simplifications can be introduced to adapt the model to different applications.