

## عنوان مقاله:

Analysis of Whole Range of Flux Behavior during Full Scale Apple Juice Ultrafiltration Process

## محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 7

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## خلاصه مقاله:

Apple juice ultrafiltration modeling has been studied by industrial scale information. The operation was carried out in batch process and all operational parameters were controlled by accurate systems, except the solute concentration of retentate. Flux reduction was occurred both in the beginning and at the end of operation. Based on the analytical considerations, flux reduction in these two stages are due to fouling and increasing of solute concentration, respectively. For predicting fouling, amongst the studied models, the empirical model has shown the best fit within about 5 percent error. The most significant advantage of this model to pore blocking models is introducing a steady flux after taking place of fouling while other models predict the flux to be zero at infinite time which is contrary to the observation. Regarding to the flux decline at the end of operation the concentration polarization model has shown a good match with the generated experimental data. The overall flux data was predicted with contribution of fouling and gel-polarization models reasonably.

## کلمات کلیدی:

Full scale, Ultrafiltration, Gel-Polarization, Fouling, Modeling

## لینک ثابت مقاله در پایگاه سیویلیکا:

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