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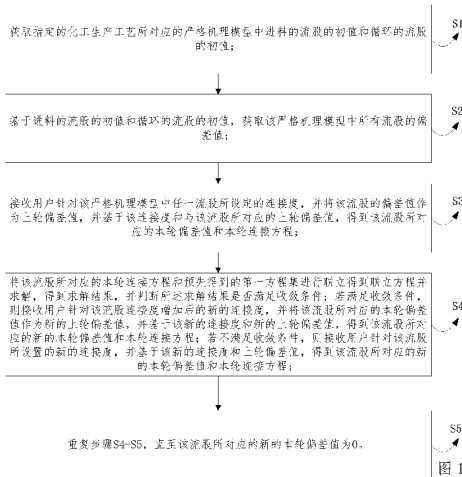
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(54) Title: CIRCULATING STREAM UNBLOCKING METHOD FOR PROCESS SIMULATION

(54) 发明名称: 一种流程模拟循环流股打通方法



S1 Acquire an initial value of a feed stream and an initial value of a circulating stream in a rigorous mechanism model corresponding to a designated chemical production process
S2 On the basis of the initial value of the feed stream and the initial value of the circulating stream, acquire deviation values of all streams in the rigorous mechanism model
S3 Receive a connectivity degree that is set by a user for any stream in the rigorous mechanism model, use the deviation value of the stream as a previous-round deviation value, and on the basis of the connectivity degree and the previous-round deviation value corresponding to the stream, obtain a current-round deviation value and a current-round connectivity equation that correspond to the stream
S4 Combine the current-round connectivity equation corresponding to the stream and a pre-obtained first equation set to obtain simultaneous equations, solve the simultaneous equations to obtain a solving result, and determine whether the solving result meets a convergence condition; if the convergence condition is met, receive a new connectivity degree obtained after the user increases the connectivity degree for the stream, use the current-round deviation value corresponding to the stream as a new previous-round deviation value, and on the basis of the new connectivity degree and the new previous-round deviation value, obtain a new current-round deviation value and a new current-round connectivity equation that correspond to the stream
S5 Repeat S4-S5 until the new current-round deviation value corresponding to the stream is 0

图 1

(57) Abstract: A circulating stream unblocking method for process simulation. The method comprises: S1, acquiring an initial value of a feed stream and an initial value of a circulating stream (S1); S2, on the basis of the initial value of the feed stream and the initial value of the circulating stream, acquiring deviation values of all streams (S2); S3, receiving a connectivity degree, using the deviation value of a stream as a previous-round deviation value, and on the basis of the connectivity degree and the previous-round deviation value, obtaining a current-round deviation value and a current-round connectivity equation (S3); S4, combining the current-round connectivity equation and a first equation set to obtain simultaneous equations, and solving the simultaneous equations; if a convergence condition is met, receiving a new connectivity degree, using the current-round deviation value as a new previous-round deviation value, and on the basis of the new connectivity degree and the new previous-round deviation value, obtaining a new current-round deviation value and a new current-round connectivity equation; and if the convergence condition is not met, receiving a new connectivity degree, and

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on the basis of the new connectivity degree and the previous-round deviation value, obtaining a new current-round deviation value and a new current-round connectivity equation (S4); and S5, repeating S4-S5 until the new current-round deviation value is 0 (S5).

(57) 摘要: 一种流程模拟循环流股打通方法, 包括: S1、获取进料的流股初值和循环的流股初值(S1); S2、基于进料的流股初值和循环的流股初值, 获取所有流股的偏差值(S2); S3、接收连接度, 并将流股的偏差值作为上轮偏差值, 并基于连接度和与上轮偏差值, 得到本轮偏差值和本轮连接方程(S3); S4、将本轮连接方程和第一方程集进行联立得到联立方程并求解, 若满足收敛条件, 则接收新的连接度, 并将该本轮偏差值作为新的上轮偏差值, 并基于新的连接度和新的上轮偏差值, 得到新的本轮偏差值和本轮连接方程; 若不满足, 则接收新的连接度, 并基于该新的连接度和上轮偏差值, 得到新的本轮偏差值和本轮连接方程(S4); S5、重复S4-S5, 直至新的本轮偏差值为0(S5)。