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계절별 기후조건과 유황을 고려한 주지하수감수곡선에 대한 연구
 Research on Master Recession Curve (MRC)
 Considering Seasonality and Flow Condition

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Abstract

Baseflow which is one of the unmeasurable components of streamflow and slowly flows through underground is important for water resource management. Despite various separation methods from researches preceded, it is difficult to find a significant separation method for baseflow separation. This study applied the MRC method and developed the improved approach to separate baseflow from total streamflow hydrograph. Previous researchers utilized the whole streamflow data of study period at once to derive synthetic MRCs causing unreliable results. This study has been proceeded with total nine areas with gauging stations. Each three areas are selected from 3 domestic major watersheds. Tool for drawing MRC had been used to draw MRCs of each area. First, synthetic MRC for whole period and two other MRCs were drawn following two different criteria. Two criteria were set by different conditions, one is flow condition and the other is seasonality. The whole streamflow was classified according to seasonality and flow conditions, and MRCs had been drawn with a specialized program. The MRCs for flow conditions had low R² and similar trend to recession segments. On the other hand, the seasonal MRCs were eligible for the baseflow separation that properly reflects the seasonal variability of baseflow. Comparing two methods of assuming MRC for baseflow separation, seasonal MRC was more effective for relieving overestimating tendency of synthetic MRC. Flow condition MRCs had large distribution of the flow and this means accurate MRC could not be found. Baseflow separation using seasonal MRC is showing more reliability than the other one however, if certain technique added up to the flow condition MRC method to stabilize distribution of the streamflow, the flow conditions method could secure reliability as much as seasonal MRC method.

Key words: Baseflow separation, MRC, Recession analysis, MRC division, Seasonality, Flow condition

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