1067-05-2175   **Omid Ghayour Najafabad*** (`texinfo@gmail.com`), Department of Mathematics, Ahvaz, Khoozestan 61357. *Distribution Networks - A Generalization to Graphs: more application and less fuzzification.*

In this presentation we will show some interesting points in one of the generalizations of graphs and concept of edge in a graph and minimum spanning trees, including a generalization of matrix-tree theorem, based on the effects of replacing the initial points and final points of an edge by special fuzzy sets, called initial and final shares, c_i and c_o. The generalization noticed here is called, distribution network, which is, $N = (V, C)$, a pair of vertices set, V, and distribution companies or distribution channels set, C. For each $c \in C$ we have c_i, a function showing the share of each vertex in the input of the company, c; and similarly c_o which shows the share in the output. If applied to graphs (resp. directed-graphs) and $e = uv$, then c_i and c_o are characteristic function $\chi_{u,v}$ both (resp. functions χ_u and χ_v). By redefinition of graphs using these functions, we can make a backward compatibility and induce several concepts in distribution networks, e.g. minimal spanning subset of companies, and point to the concept found from the Matrix-Tree theorem for distribution networks. In this work we have shown several problems dealing with such ideas, including the algebraic extensibility. (Received September 22, 2010)