Universitas Indonesia Library >> UI - Tesis Membership

Kaitan nilai eigen terbesar matriks antiadjacency dengan derajat graf dan operasi maksimum dari dua graf = Relation the largest eigen value of antiadjacency matrix with degree of graph and maximum operation of two graph

Rostika Listyaningrum, author

Deskripsi Lengkap: https://lib.ui.ac.id/detail?id=20414133&lokasi=lokal

---

Abstrak

Misalkan 𝐺 adalah graf berarah asiklik. Matriks adjacency dari graf berarah 𝐺 dengan 𝑉 𝐺 = 𝑣1, 𝑣2, ? , 𝑣𝑛 adalah matriks 𝐴 = 𝑎𝑖𝑗 berukuran 𝑛 × 𝑛 di mana 𝑎𝑖𝑗 = 1, untuk 𝑖 ≠ 𝑗 jika terdapat busur berarah dari 𝑣𝑖 ke 𝑣𝑗 , 𝑎𝑖𝑗 = 0 untuk yang lainnya. Matriks antiadjacency dari graf berarah G adalah matriks 𝐵 = 𝐽 − 𝐴 dengan 𝐽 adalah matriks berukuran n × n yang semua entrinya adalah 1. Pada tesis ini diberikan kaitan nilai eigen terbesar matriks antiadjacency dengan derajat terkecil, derajat terbesar graf berarah asiklik yaitu graf bipartit lengkap berarah 𝐾 𝑟,𝑠 dengan 𝑟, 𝑠 ≥ 1, graf lintasan lengkap berarah 𝐶 𝑃 𝑛 dengan 𝑛 ≥ 3, graf lingkaran berarah asiklik 𝐶𝑛 , dan graf lintasan berarah 𝑃 𝑛. Selain hal tersebut juga diberikan relasi nilai eigen terbesar matriks antiadjacency dengan operasi maksimum dari dua graf berarah asiklik.

<hr>

Let 𝐺 be a directed acyclic graph. The adjacency matrix of directed graph 𝐺 with 𝑉 𝐺 = 𝑣1, 𝑣2, ? , 𝑣𝑛 is a matrix 𝐴 = 𝑎𝑖𝑗 of order 𝑛 × 𝑛, where 𝑎𝑖𝑗 = 1 for 𝑖 ≠ 𝑗 if there is an arc from 𝑣𝑖 to 𝑣𝑗 , otherwise 𝑎𝑖𝑗 = 0. Antiadjacency matrix of directed graph 𝐺 is a matrix 𝐵 = 𝐽 − 𝐴, with 𝐽 is a matrix of order 𝑛 × 𝑛 with all entries are 1. In this thesis is given relation between the largest eigen value of antiadjacency matrix with degree minimum and degree maximum of directed acyclic graphs that are complete bipartite directed graph 𝐾 𝑟 ,𝑠 with 𝑟, 𝑠 ≥ 1, complete path directed graph 𝐶 𝑃 𝑛 with 𝑛 ≥ 3, acyclic cycle directed graph with 𝑛 ≥ 4 and path directed graph with 𝑛 ≥ 3. In addition, here are also given relation between the largest eigen value of antiadjacency matrix and maximum operation of two directed acyclic graph.