Semi-infinite optimization

Prowadzący: prof. dr hab. Armin Hoffman.

Program wykładu:

1. Introduction.
2. Discrete Approximation of data.
   - 2.1. Chebyshev or l_∞-approximation.
   - 2.2. Reformulation of the discrete Chebyshev approximation problem (DCAP) as linear problem (LP).
   - 2.3. l_2 and l_1 approximation of data.
3. Chebyshev-approximation of continuous functions.
   - 3.1. Problem.
   - 3.2. Formulation as semi-infinite optimization problem.
4. Linear semi-infinite programming.
   - 4.1. Problem and geometric optimality conditions.
   - 4.2. Dual optimality conditions - multiplier rules.
   - 4.3. Existence of solution of linear semi-infinite optimization problem (LSIP).
   - 4.4. Strong uniqueness of Chebyshev-approximation and alternating property.

Literatura:

Hettich, R., Zencke, P., *„Numerische Methoden der Approximation und semi-infiniten Optimierung"*, B.G. Teubner, Stuttgart, 1982

Laurent, P.-J., *„Approximation et optimization"*, Hermann, Paryż, 1972

Kosmol, P., *„Optimierung und Approximation"*, De Gruyter, Berlin, 1991