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FORTHCOMING PAPERS

The following papers will be published in future issues:

A.G. Robinson and A.J. Goldman, On Ringeisen's Isolation Game II.

We further develop the theory of Ringeisen's Isolation Game on a graph, in which two players alternately "switch" at successive vertices v not previously switched. The switching operation deletes all edges incident with v, and creates new edges between v and those vertices not previously adjacent to it. The game is won when a vertex is first isolated. In this paper we prove the (somewhat surprising) result that with best play such games can be won only either very early or very late, implying that most graphs are nonwinnable by either player.

A.F. Sidorenko, On triangle-free regular graphs.

Answering a problem of Erdős it is proved that for every $n \neq 3, 7, 9$ there exists a regular graph on n vertices with no triangles where the independence number is equal to the degree.

Yong-Chuan Chen, On maximum (g, f)-factors of a general graph.

This paper presents a characterization of maximum (g, f)-factors of a general graph in which multiple edges and loops are allowed. An analogue characterization of the minimum (g, f)-factors of a general graph is also presented. In addition, we obtain a transformation theorem for any two general graphs on the same vertex set. As special cases, we have the transformation theorems for both maximum (g, f)-factors and minimum (g, f)-factors. Our results generalize some of C. Berge's results on maximum matchings and maximum c-matchings of a multiple graph.

B. Courteau and A. Montpetit, On a class of codes admitting at most three non-zero dual distances.

In the general non-linear case, we introduce and characterize codes of order 3 or order 3-star whose combinatorial behavior is similar to that of the orthogonal of the projective code associated to triple-sum sets, a natural generalization of partial difference sets. The class of codes introduced contains all perfect codes, all 2-error-correcting strongly uniformly packed codes, all 1-error-correcting uniformly packed codes and also other classes of 1-error-correcting codes not of the above mentioned types of which we will give some examples.

R.J. Faudree, R.J. Gould and L.M. Lesniak, Neighborhood conditions and edge-disjoint perfect matchings.

A graph G satisfies the neighborhood condition $\mathrm{ANC}(G) \geq m$ if, for all pairs of vertices of G, the union of their neighborhoods has at least m vertices. For a fixed positive integer k, let G be a graph of even order n which satisfies the following conditions: $\delta(G) \geq k+1$; $K_1(G) \geq k$; and $\mathrm{ANC}(G) \geq \frac{1}{2}n$. It is shown that if n is sufficiently large, then G contains k edge-disjoint perfect matchings.

R.J. Faudree, M.S. Jacobson, L. Kinch and J. Lehel, Irregularity strength of dense graphs.

It is proved that if t is a fixed positive integer and n is sufficiently large, then each graph of order n with minimum degree $n-t$ has an assignment of weights 1, 2 or 3 to the edges in such a way that weighted degrees of the vertices become distinct.

P.C. Fishburn, J.C. Lagarias, J.A. Reeds and L.A. Shepp, Sets uniquely determined by projections on axes II. Discrete case.

A subset S of $\mathbb{N}^n = \{1, 2, \ldots, N\}^n$ is a *discrete set of uniqueness* if it is the only subset of $\mathbb{N}^n$ with projections $P_1, \ldots, P_n$, where $P_i(j) = |\{(x_1, \ldots, x_n) \in S : x_i = j\}|$. Also, S is *additive* if there are real valued functions $f_1, \ldots, f_n$ on $\mathbb{N}$ such that, for all $(x_1, \ldots, x_n) \in \mathbb{N}^n$, $(x_1, \ldots, x_n) \in S \Leftrightarrow \sum_i f_i(x_i) \geqslant 0$.

Sets of uniqueness and additive sets are characterized by the absence of certain configurations in the lattice $\mathbb{N}^n$. The characterization shows that every additive set is a set of uniqueness. If $n=2$, every set of uniqueness is also additive. However, when $n \geqslant 3$, there are sets of uniqueness that are not additive.

Tomasz Luczak, On the size and connectivity of the k-core of a random graph.

Let $G(n, p)$ be a graph with n labelled vertices in which each edge is present independently with probability $p = p(n)$ and let $C(k; n, p)$ be the maximal subgraph of $G(n, p)$ with the minimal degree at least $k = k(n)$. In this paper we estimate the size of $C(k; n, p)$ and consider the probability that $C(k; n, p)$ is k-connected when $n \to \infty$.

C.M. Mynhardt, Lower Ramsey numbers for graphs.

Let $\mu(G)$ denote the smallest number of vertices in a maximal clique of the graph G, while $i(G)$ (the independent domination number of G) denotes the smallest number of vertices in a maximal independent (i.e. independent dominating) set of G. For given integers l and m, the lower Ramsey number $s(l, m)$, originally defined in [4], is the largest integer p such that every graph G of order p has $\mu(G) \leqslant l$ or $i(G) \leqslant m$. We find an upper bound for $s(l, m)$ which is better than the upper bound in [4] if $l < \lfloor m/2 \rfloor$. Combining this upper bound with a lower bound determined in [3], the numbers $s(1, m)$ are determined exactly.

James G. Oxley, On ternary paving matroids.

Acketa has determined all binary paving matroids. This paper specifies all ternary paving matroids. There are precisely four minor-maximal 3-connected such matroids: $S(5, 6, 12)$, PG(2, 3), the real affine cube, and one other 8-element self-dual matroid.