1050-05-93   **Hiroshi Suzuki*** (`hsuzuki@icu.ac.jp`), Dept. of Mathematics and Computer Science, International Christian University, 3-10-2, Osawa, Mitaka, Tokyo, 181-8585. *Distance-Regular Graphs Having Certain Completely Regular Subgraphs.*

Let $\Gamma = (X, R)$ be a distance-regular graph of diameter d. A subset Y of X is said to be *completely regular* if the numbers

$$\pi_{i,j} = |\Gamma_j(x) \cap Y| \quad (i, j \in \{0, 1, \ldots, d\})$$

depend only on $i = \partial(x, Y)$ and j.

Many distance-regular graphs have distance-regular subgraphs whose vertex set is completely regular. In this presentation, we discuss characterizations of distance-regular graphs by their completely regular distance-regular subgraphs.

We start from the case when the induced subgraph is a quadrangle and give characterizations of Hamming graphs and dual polar graphs.

We also discuss its connection to D-bounded distance-regular graphs. (Received February 28, 2009)

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