In fact if we let

$$T(n) = \sum_{\delta \mid n} F_{2\delta}$$

then

$$T(n) - 4T(n-1) + 11T(n-3) - 29T(n-6) + \cdots$$
$$= \begin{cases} (-1)^k k F_{2k-1} - F_{2k} & \text{if } n = k(k-1)/2 \\ 0 & \text{otherwise.} \end{cases}$$

Here the mth term of the sequence

$$1, 4, 11, 29, 76, 199, \cdots$$

is

$$F_{2m} + F_{2m-2}.$$

UNIVERSITY OF CALIFORNIA

ON PARTICULAR SOLUTIONS OF LINEAR PARTIAL DIFFERENTIAL EQUATIONS

K. L. NIELSEN AND B. P. RAMSAY

1. **Introduction.** The boundary value and characteristic value problems are classical questions in the theory of partial differential equations of elliptic type. A method for actual solution of these problems consisting of approximations by expressions $W_n = \sum_{\nu=1}^{n} \alpha_\nu^{(n)} \phi_\nu(x, y)$, where $\phi_\nu(x, y)$ are *particular solutions of the considered differential equation*, has been given by Bergman (see [1]).[1] Here the $\alpha_\nu^{(n)}$ are constants which are to be determined by the requirement that the values of W_n on the boundary approximate the given data (for details see [1]).[2]

In applying this method it is important for practical purposes to obtain a simple procedure for the construction of the particular solu-

---

Presented to the Society, September 10, 1942; received by the editors May 13, 1942. This paper was prepared while the authors were fellows under the program of Advanced Instruction and Research in Mechanics at Brown University.

[1] The numbers in the brackets refer to the bibliography.

[2] This method is in a certain sense the reverse of the Rayleigh-Ritz method in which the approximating expressions satisfy the boundary conditions but do not satisfy the given equation.