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(71) Applicant *(for all designated States except US)*: **TAO GROUP LIMITED** [GB/GB]; 62/63 Suttons Business Park, Earley, Reading RG6 1AZ (GB).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **GEIRINGER, Felix, Egmont** [GB/GB]; 33 Regent Street, Oxford OX4 1DX (GB). **SHELTON, Daniel** [GB/GB]; 51 St Bartholomews Road, Reading RG1 3QA (GB).

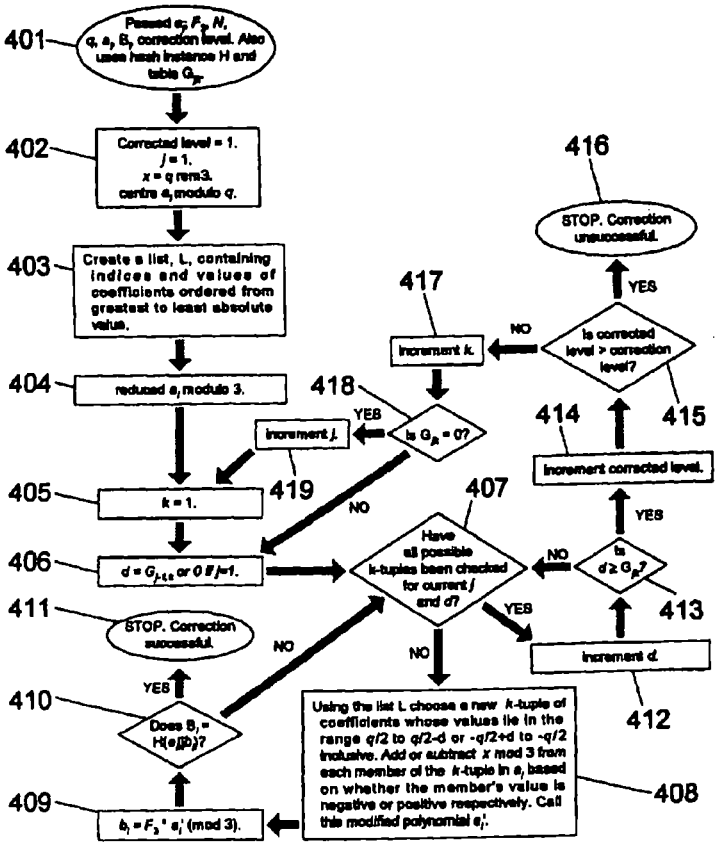
(74) Agents: **MAGGS, Michael, Norman** et al.; Kilburn & Strode, 20 Red Lion Street, London WC1R 4PJ (GB).

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(54) Title: DECRYPTION OF CIPHER POLYNOMIALS



(57) Abstract: A method of decrypting a cipher polynomial (*e*) using a private key (*f*) comprises: (a) Computing a trial polynominal (*a*), where $a = f^* e \pmod q$ and (*q*) is an integer; (b) Determining, on the basis of the trial polynomial (*a*), whether the polynomial (*e*) has decoded correctly, and if not: (i) determining which coefficient or coefficients of the trial polynomial (*a*) are likely to have caused the failure to decode; (ii) adjusting the said coefficient or coefficients to define a new trial polynomial; and (iii) attempting to decode the cipher polynomial (*e*) using the new trial polynomial. The method is particularly applicable to public key cryptosystems and, more particularly, to polynomial-based systems.

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