

ALEXANDER POLYNOMIAL INVARIANTS  
OF TORUS KNOTS  $T(n, 3)$  AND CHEBYSHEV  
POLYNOMIALS

*A.M. Gavrilik, A.M. Pavlyuk*

Bogolyubov Institute for Theoretical Physics,  
Nat. Acad. of Sci. of Ukraine  
(14b, Metrolohichna Str., Kyiv 03680, Ukraine;  
e-mail: [omgavr@bitp.kiev.ua](mailto:omgavr@bitp.kiev.ua), [pavlyuk@bitp.kiev.ua](mailto:pavlyuk@bitp.kiev.ua))

S u m m a r y

The explicit formula, which expresses the Alexander polynomials  $\Delta_{n,3}(t)$  of torus knots  $T(n, 3)$  as a sum of the Alexander polynomials  $\Delta_{k,2}(t)$  of torus knots  $T(k, 2)$ , is found. Using this result and those from our previous papers, we express the Alexander polynomials  $\Delta_{n,3}(t)$  through Chebyshev polynomials. The latter result is extended to general torus knots  $T(n, l)$  with  $n$  and  $l$  coprime.