

SPECIAL FORM OF THE SINGULAR FUNCTION  
FOR THE CONTINUOUS PART OF SPECTRAL  
DATA IN THE INVERSE SCATTERING METHOD

*V.O. Vakhnenko*

Subbotin Institute of Geophysics,  
Nat. Acad. of Sci. of Ukraine  
(63g, B. Khmelnytsky Str., Kyiv 01054, Ukraine;  
e-mail: *vakhnenko@ukr.net*)

S u m m a r y

We describe a procedure for using the method of inverse scattering transform to find the solutions of the Vakhnenko–Parkes equation that are associated with the continuous part of spectral data for the spectral problem. The suggested special form of the singular function gives rise to the periodic solutions. The interaction of  $N$  periodic waves is studied. In the general case, the solutions are complex functions. For  $N = 1$  and  $N = 2$ , the real solutions are selected.