The TRIUMF Weak Interaction Symmetry Test

W. Andersson[a], C. Ballard[a], Y. Davydov[a], P. Depommier[b], J. Doornbos[a], W. Faszer[a], C.A. Gagliardi[c], A. Gaponenko[d], D.R. Gill[a], P.W. Green[da], P. Gumplinger[a], M. Hasinoff[e], R. Henderson[a], B. Jamieson[e], P. Kitching[d], D.D. Koetke[f], M. Kroupa[gf], Y. Lachin, D. Maas[e], J.A. Macdonald[a], R. MacDonald[d], G. Marshall[a], J.R. Musser[c], P. Nord[f], K. Olchanski[a], A. Olin[a], R. Openshaw[a], T. Porcelli[h], J-M. Poutissou[a], R. Poutissou[a], M. Quraan[d], N.L. Rodning[d]*, J. Schaapman[d], V. Selivanov[i], G. Sheffer[a], B. Shin[a], T.D.S. Stanislaus[f], R. Tacik[j], V. Torokov[i], R.E. Tribble[c], M.A. Vasiliev[c], S-C. Wang[a] and D.H. Wright[ak]

[a] *TRIUMF, 4004 Wesbrook Mall, Vancouver, British Columbia, Canada*
[b] *University of Montreal, Montreal, Quebec, Canada*
[c] *Texas A&M University, College Station, Texas, USA*
[d] *University of Alberta, Edmonton, Alberta, Canada*
[e] *University of British Columbia, Vancouver, British Columbia, Canada*
[f] *Valparaiso University, Valparaiso, Indiana, USA*
[g] *Monmouth College, Monmouth, Illinois, USA*
[h] *University of Northern British Columbia, Prince George, British Columbia, Canada*
[i] *RRC "Kurchatov Institute", Moscow, Russia*
[j] *University of Regina, Regina, Saskatchewan, Canada*
[k] *Present address: SLAC, California, USA*

The TRIUMF Weak Interaction Symmetry Test (TWIST) is now on the floor, and the collaboration has begun a study of the energy spectrum and angular distribution of positrons from polarized μ^+ decay. The experiment has been designed to extract the Michel parameters ρ, δ and $P_\mu\xi$ with a precision on the order of parts in 10^4. In addition, it should be possible to extract η at a level competitive with the accepted measurements. The TWIST measurements will have significant new model-independent sensitivity to right-handed couplings which are inconsistent with the Standard Model. It will also be possible to test some specific alternatives to the Standard Model, such as left/right symmetric extensions.

Major instrumentation was completed in October 2001, and the spectrometer was commissioned in November and December 2001. Results from the commissioning which demonstrate the efficiency, resolution, and the uniformity achieved in the fabrication of the spectrometer will be shown.

Physics runs are planned for 2002, and preliminary results at the level of 0.1% in ρ and δ are anticipated in 2003.

Contact drgill@triumf.ca

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