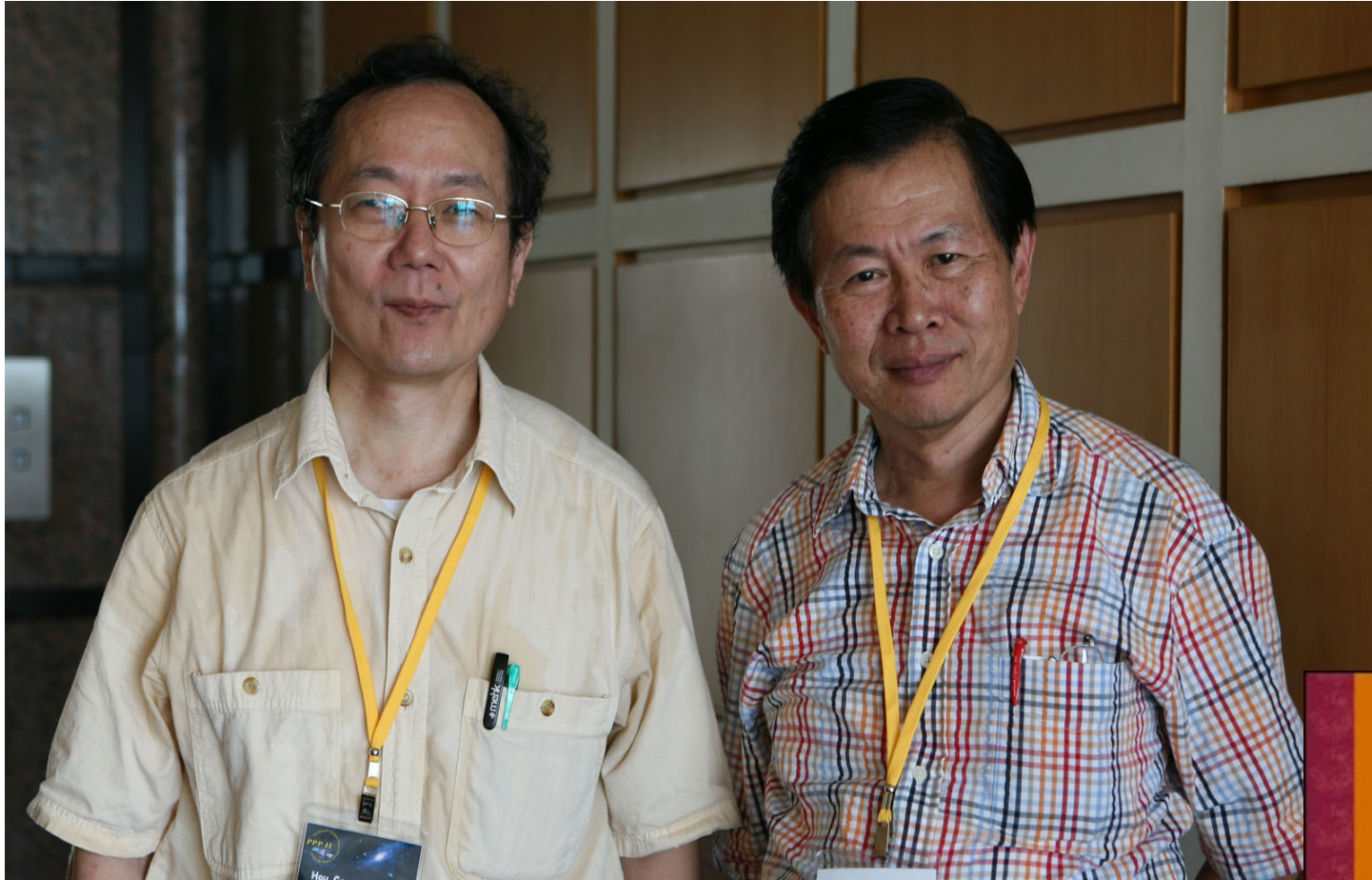# Hai-Yang Fest

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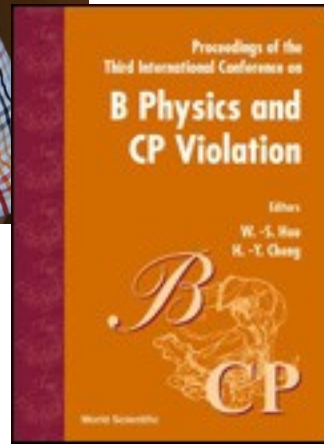

George Wei-Shu Hou (NTU)

成大學士　　1971
清大碩士　　1975
Purdue　　　1980
　　　　　　1980-83
Brandeis　　1983-85
Indiana　　　1985-87 (Chest Davis Fellow)
ASIoP　　　　1987-

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　　　　　　1994　　MOE 學術獎； 物理學會會士

　　　　　　1994-96 NSC Physics Panel (Chair, 1994-95)
　　　　　　　Chief Editor, Chinese Journal of Physics
'99-'00　　Deputy Director of IoP

2013-　　　Distinguished Fellow

THE EFFECTS OF LONG-RANGE FIELDS ON THE KAON-ANTIKAON SYSTEM

Cheng, Hai-Yang. Purdue University, ProQuest, UMI Dissertations Publishing, 1980. 8113657.

under Ephraim Fischbach

⊟ Abstract (summary)

Given the suggestion of the possibility that the neutral kaon mass^difference (delta)m, the decay width difference (GAMMA)(,L)-(GAMMA)(,S), and CP violation^parameter (eta)(,+-) are momentum-dependent, the implication is that there must exist some new long-range force. We investigate the effects of such^external field on the K-K system by considering the most general K-K(')^mixing mass matrix which includes four external potentials d, u(,1), u(,2), and u(,3). The sources and the properties of the long-range fields are discussed and a methodology of analyzing the phenomenological model and data is given. A further experiment is proposed to probe the u(,i). We find effects which depend on the gradient of the long-range potential and thus they provide useful information on the range of the external potential. Such an experiment also can be used to test the Einstein-Podolsky-Rosen paradox.

CP-violating effects in heavy-meson systems

Hai-Yang Cheng

Physics Department, Purdue University, West Lafayette, Indiana 47907

(Received 15 December 1981)

We calculate the dilepton charge asymmetry in the neutral-conjugate-heavy-meson systems produced in e^+e^- annihilation. This asymmetry, which is a measure of the intrinsic CP violation in the mass matrix, is calculated in the Kobayashi-Maskawa (KM) model as well as the Higgs-boson model of CP nonconservation. While the charge asymmetry is small for the D^0-$\bar{D}^0$ and B^0-$\bar{B}^0$ systems in both models, it is predicted to be quite large

1982-83(84) Single Author
- CPV in D/B
- Spont. CPV & Axion
- Lept. CPV
- CPV in K → ππππ
- PQ symm.

Quark Diagram Scheme and many pioneering work in B/CPV

with Ling-Lie Chau

1. **Partial Rate Differences From {CP} Violation in Hyperon Nonlepto**
Ling-Lie Chau (Brookhaven), Hai-Yang Cheng (Purdue U.). Jun 1983. 16 pp.
Published in Phys.Lett. B131 (1983) 202
PURD-TH-83-13, BNL-33422
DOI: 10.1016/0370-2693(83)91121-8
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2. **{CP} Violation in the Partial Decay Rates of Charm and Beauty Me**
Ling-Lie Chau (Brookhaven), Hai-Yang Cheng (Brandeis U.). May 1984. 12 pp.
Published in Phys.Rev.Lett. 53 (1984) 1037
BNL-34644
DOI: 10.1103/PhysRevLett.53.1037
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3. $K^0(\bar{K}^0) \rightarrow 2\gamma$ **Decays: Phenomenology and {CP} Nonconservat**
Ling-Lie Chau (Brookhaven), Hai-Yang Cheng (Brandeis U.). Jan 1985. 14 pp.
Published in Phys.Rev.Lett. 54 (1985) 1768
Print-85-0108 (BNL)
DOI: 10.1103/PhysRevLett.54.1768
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4. **Cp Violation In The Kaon System**
Ling-Lie Chau (Brookhaven), Hai-Yang Cheng (Brandeis U.), Wai-Yee Keung (Illinois
1986. 14 pp.
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Contributed to Conference: C86-07-16 Proceedings
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KEK scanned document
詳細記錄

5. **Charmless Beauty Decays And Cp Noninvariance**

Quark-Diagram Analysis of Two-Body Charm Decays

Ling-Lie Chau
Physics Department, Brookhaven National Laboratory, Upton, New York 11973
and
Hai-Yang Cheng
Physics Department, Indiana University, Bloomington, Indiana 47405
(Received 13 February 1986)

Two-body decays of charm mesons are analyzed in the quark-diagram formulation, including effects of SU(3) breaking and final-state interactions. Interesting future experiments are also pointed out.

PACS numbers: 13.25.+m, 12.15.Ji

In this Letter we analyze the experimental results for exclusive two-body decays of charmed mesons in a model-independent way within the framework of the quark-diagram formulation. We show that the recent measurements of two-body exclusive decays of charm mesons D^+, D^0, F^+ by Baltrusaitis et al.,[1] Chen [2] Darden et al. and Albrecht et al.,[3] Derrick and Althoff et al.,[5] incorporating life ments,[6] can allow us to det even the signs of some of tudes for $P_c \rightarrow VP$ decays D^+, D^0, F^+; V is the vector doscalar meson.) For $P_c \rightarrow$ lations among various quark-a amplitudes. Using these experimentally determined quark amplitudes, we are able to make predictions for other charm

decay channels and test various theoretical models.
It has been known e time that all nonleptonic weak de n be described in terms of six the external W emission b, the W exchange c, zontal W-loop diagram ram f. This description the strong-interaction gluon effects, can incorporate any specific strong-uction model calculations. Such a scheme is most suitable for a systematic model-independent study of the numerous two-body decays of heavy-quark particles, such as charm and beauty. This scheme is greatly helped by the recent good determination of the quark-mixing matrix; it is especially helpful that $V_{ub}^*/V_{ud} = -V_{cb}^*/V_{cs} = s_1 c_1 = 0.22$ (from the measured sup-

TABLE I. Charm meson decays into a vector boson and a pseudoscalar meson.

	Experimental branching ratio (%)	Amplitudes with SU(3) symmetry[f]	Amplitudes with SU(3) breaking and final-state interactions[g]
		D^+ decays	
$\bar{K}^{*0}\pi^+$	$3.0 \pm 1.9 \pm 1.7^a$	$(c_1)^2[a'+b']$	$(c_1)^2[a'+b']\exp(i\delta\zeta_{b2}^{*+})$
$\rho^+\bar{K}^0$	$12.2 \pm 2.8 \pm 1.9^a$	$(c_1)^2[a+b]$	$(c_1)^2[a+b]\exp(i\delta\eta\tilde{\zeta})$
$\phi\pi^+$	$0.93 \pm 0.26 \pm 0.17^a$	$(s_1c_1)[b']$	$(s_1c_1)[b']\exp(i\delta^{\Phi+})$
$\bar{K}^{*0}K^+$	$0.53 \pm 0.24 \pm 0.14^a$	$(s_1c_1)[a'-\tilde{d}]$	$(s_1c_1)[a'-\tilde{d}+\delta e]\exp(i\delta\zeta^{F+K})$
		D^0 decays	
$\phi\bar{K}^0$	1.4 ± 0.5^b	$(c_1)^2[\tilde{c}']$	$(c_1)^2[\tilde{c}']\exp(i\delta^{\phi K})$
$\omega\bar{K}^0$	$3.8 \pm 1.5 \pm 1.0^a$	$(1/\sqrt{2})(c_1)^2[b+c]$	$(1/\sqrt{2})(c_1)^2[b+c]\exp(i\delta^{\omega K})$
$K^{*-}\pi^+$	$7.8 \pm 1.2 \pm 0.9^a$	$(c_1)^2[a'+c']$	$(c_1)^2[(a'+c')-\frac{1}{2}(a'+b')[1-\exp(i\Delta_{K^{*}\pi})]]\exp(i\delta\zeta_{b2}^{*+})$
	$7.1 \pm 1.6 \pm 1.3$		
$\bar{K}^{*0}\pi^0$	$2.1 \pm 0.9 \pm 0.6^a$	$(1/\sqrt{2})(c_1)^2[b'-c']$	$(1/\sqrt{2})(c_1)^2[(b'-c')-\frac{1}{2}(a'+b')[1-\exp(i\Delta_{K^*\pi})]]\exp(i\delta\zeta_{b2}^{*+})$
ρ^+K^-	$13.7 \pm 1.3 \pm 1.5^a$	$(c_1)^2[a+c]$	$(c_1)^2[(a+c)-\frac{1}{2}(a+b)[1-\exp(i\Delta_{\rho K})]]\exp(i\delta\zeta^{*})$
$\rho^0\bar{K}^0$	$1.3 \pm 0.4 \pm 0.3^a$	$(1/\sqrt{2})(c_1)^2[b-c]$	$(1/\sqrt{2})(c_1)^2[(b-c)-\frac{1}{2}(a+b)[1-\exp(i\Delta_{\rho K})]]\exp(i\delta\zeta^{*})$
		F^+ decays	
$\phi\pi^+$	3.3 ± 1.1^c; 4.4^d	$(c_1)^2[a']$	$(c_1)^2[a']\exp(i\delta^{\Phi+})$
	$13.0 \pm 3.0 \pm 4.0^b$		

[a]Reference 1.
[b]Reference 3; see also Refs. 1 and 2.
[c]Reference 4.
[d]Reference 2.
[e]Reference 5.
[f]$V_{ud}V_{us}^* = -V_{cd}V_{cs}^* = s_1c_1$ used.
[g]$\delta e = \tilde{a} - e$; $\delta f = f - f$; $\delta c = \tilde{c} - c$; the amplitudes with tildes have δ.

Predated T, P, C, P$_{EW}$, …

Fw: Greetings, congratulations on the "Hai-Yang Fest" !

Ling-Lie Chau, 5/13

"On this festive occasion, I would like to congratulate Hai-Yang for his accomplishments and for the good he has done for Academia Sinica and the academic environment in Taiwan.

I am happy that Hai-Yang was brave enough to take my encouragement to join Academia Sinica, which was not so popular a thing to do at the time. (Here I would like to give my warmest best regards and thanks to the precious Institute Director Er K. Lin, who had graciously hosted many of my visits before and after hiring Hai-Yang. I wish him a soon recovery.)

I also would like to thank Hai-Yang for liking my quark-diagram method And for the many happy productive collaborations and for continuing to push it forward.

Best wishes to Hai-Yang and his family for many happy years!"

Heavy Quark Symmetry and Chiral Dynamics

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結果顯示
25 結果 ▼ | 單一列表 ▼

HEP 找到 8 筆記錄 檢索需時

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Lin (Taiwan, Inst. Phys.), Y.C. Lin (Taiwan, Natl. Central U.), Hoi-Lai Y
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Hai-Yang Cheng, Chi-Yee Cheung, Guey-Lin Lin (Taiwan, Inst. Phys.),
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Published in Phys.Rev. D46 (1992) 5060-5068
IP-ASTP-07-92, CLNS-92-1153
DOI: 10.1103/PhysRevD.46.5060
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U.), Tung-Mow Yan (Taiwan, Inst. Phys. & Cornell U., LNS), Hoi-Lai Y
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CLNS-92-1158, IP-ASTP-13-92
DOI: 10.1103/PhysRevD.47.1030
e-Print: hep-ph/9209262 | PDF

Academic Impact: Flavor/CPV

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Chun-Khiang's Chua / Charge

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Average citations per paper:	36.7	42.3	29.7
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Known papers (10-49)	101	99	32
Less known papers (1-9)	67	41	16
Unknown papers (0)	13	8	6
h_{HEP} index [?]	50	50	24

海洋？

- acquaint, probably 1986 or 87   海揚！
- 1994, HY as 審議人: allowed 追加預算 for
                              formative T-Belle Project
- 1998 Topical Program / PPP4 Workshop @ Kaohsiung
- 1998-99:   my leave to BNL/Cornell (Sept-Feb)
  — Dinner@Home; my flu …   [Thanx, Yann-Chiou!]

- 1999 BCP3 @ Taipei
- 2003 B -> cqqq + X

Proceedings of the Third International Conference on
B Physics and CP Violation

Editors
W.-S. Hou
H.-Y. Cheng
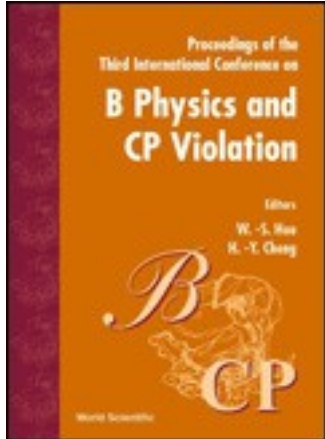
Thank you,

Hai-Yang!

Sail the High Seas!
But don't forget the BEACH.

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   Kaohsiung, Taiwan, June 18-21, 1998
   Hai-Yang Cheng (ed.), Wei-Shu Hou (ed.) (Taiwan, Natl. Taiwan U.), Hsiang-Nan
   Cheng Kung U.), Guey-Lin Lin (ed.) (Taiwan, Natl. Chiao Tung U.). 1999. 356 pp.
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2. **B physics and CP violation. Proceedings, 3rd International Cor**
   Taiwan, December 3-7, 1999
   Hai-Yang Cheng (ed.) (Taiwan, Inst. Phys.), Wei-Shu Hou (ed.) (Taiwan, Natl. Tai
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3. **B decays as spectroscope for charmed four quark states**
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   (Taiwan, Natl. Taiwan U.), Joshua Sayre (Oklahoma U.). Dec 2011. 12 pp.
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