

TABLE I. Three-baryon $Y=2$ states in the 980 multiplet.

Symbol	I	J	$SU(3)$ multiplet	Particle or resonance
$V_{0,1/2}$	0	$\frac{1}{2}$	35*	ΛH^3
$V_{0,3/2}$	0	$\frac{3}{2}$	10*	ΛH^{3*}
$V_{1,1/2}$	1	$\frac{1}{2}$	27	$\Lambda p p - \Lambda n n$
$V_{1,3/2}$	1	$\frac{3}{2}$	64	$\rightarrow N^* + \Lambda + n \rightarrow \Lambda + n + p + \pi^+$
$V_{1,5/2}$	1	$\frac{5}{2}$	27	$\rightarrow N^* + \Sigma^0 + n \rightarrow \Sigma^0 + n + p + \pi^+$
$V_{2,1/2}$	2	$\frac{1}{2}$	35	$\Sigma^+ p p - \Sigma^- n n$
$V_{2,3/2}$	2	$\frac{3}{2}$	64	$\rightarrow Y_1^{*+} + p + p \rightarrow \Lambda + p + p + \pi^+$
$V_{1,1/2}'$	1	$\frac{1}{2}$	35*	$\Sigma n p$
$V_{1,3/2}'$	1	$\frac{3}{2}$	27	$\rightarrow Y_1^{*+} + n + p \rightarrow \Lambda + n + p + \pi^+$

column gives the symbol for the state whose isospin and spin values are listed in the second and the third columns, respectively. The fourth column identifies the $SU(3)$ multiplets to which these states belong. In the fifth column, we have indicated the possible particles or resonances with which these states can be associated.

As a result of our analysis, the hypertriton belongs to the 35* representation of $SU(3)$, the same in which it was originally classified by Oakes.⁹ The excited state ΛH^{3*} is not completely ruled out and a $\Sigma^+ p p$ (or $\Sigma^- n n$) bound state¹⁰ is possible on the basis of the presently available information about the $\Lambda-N$ and $\Sigma-N$ interactions. For the states given by Eq. (5) or shown in Table I, the general mass formula of Bég and Singh⁶ cannot be further simplified. In the following, we give

⁹ R. J. Oakes, in *Proceedings of the Athens Topical Conference* (Ohio University, Athens, Ohio, 1963), p. 226.

¹⁰ The possibility of such a bound state is also expressed by Dalitz, *Strange Particles and Strong Interactions* (Oxford University Press, New York, 1962), p. 6.

examples of reactions in which some of the states shown in Table I might be observed.

$$\pi^+ + \text{He}^3 \rightarrow V_{1,3/2}^{++} + K^+,$$

$$\pi^+ + \text{He}^3 \rightarrow V_{1,5/2}^{++} + K^+,$$

$$K^- + \text{He}^3 \rightarrow V_{2,3/2}^{+++} + \pi^- + \pi^-,$$

$$K^- + \text{He}^3 \rightarrow V_{1,3/2}'^{+++} + \pi^-.$$

STATES WITH HYPERCHARGE $Y=1$

We will not discuss all the $Y=1$ states which result from Eq. (2). We will only consider here the possibility of a $\Lambda\Lambda N$ bound state. It does belong to the 980 multiplet of $SU(6)$ and may be contained either in the 35* or the 10* representation of $SU(3)$. The double hyperfragment $\Lambda\Lambda H^3$ (or $\Lambda\Lambda n^3$) may very well be formed by absorption of high-energy K^- mesons or a Ξ^- capture by helium. The information regarding the Λ - Λ interaction based on the analyses¹¹ of the *only* double hyperfragment of Danysz *et al.*¹² is statistically inadequate to allow or disallow such a possibility.

Lastly, we point out that the $SU(6)$ symmetry is not exact. We only hope it is not too badly broken for the above classification to be a useful one.

ACKNOWLEDGMENTS

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¹¹ Y. C. Tang and R. C. Herndon, *Phys. Rev.* **138**, B637 (1965); A. R. Bodmer and S. Ali, *ibid.* **138**, B644 (1965).

¹² M. Danysz *et al.*, *Phys. Rev. Letters* **11**, 29 (1963).

Errata

Possibility of Observing a Nonlinear Electromagnetic Effect, JAMES D. TALMAN [*Phys. Rev.* **139**, B1644 (1965)]. The cross sections given are too large by a factor of $16\pi^3$ so that it is unlikely that the effect can be observed at low energies. It has been pointed out to the author by Dr. Henry Valk that this effect has been discussed previously by Bolsterli.¹

¹ M. Bolsterli, *Phys. Rev.* **94**, 367 (1954).

Possible Effects of CP Violation in $K^\pm \rightarrow 3\pi$ Decay, Y. UEDA AND S. OKUBO [*Phys. Rev.* **139**, B1591 (1965)]. In the first column of p. 1599, 4th line from the bottom, the whole sentence should read as follows: "The energy spectra²⁰⁻²² of the unlike pions in the $K^\pm \rightarrow \pi^\pm \pi^\pm \pi^\mp$ decays appear to be nearly equal within present experimental errors."